

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA3 | Primrose Hill to Kilburn (Camden)

Data appendix (AQ-001-003)

Air quality

November 2013

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Department
for Transport

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High Speed Two (HS2) Limited,
Eland House,
Bressenden Place,
London SW1E 5DU

Details of how to obtain further copies are available from HS2 Ltd.

Telephone: 020 7944 4908

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.hs2.org.uk

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1 Introduction

1.1.1 The air quality appendix for the Primrose Hill to Kilburn (Camden) community forum area (CFA3) comprises:

- discussion of the policy framework (Section 2);
- baseline air quality data (Section 3);
- dust impact evaluation and risk rating (Section 4); and
- air quality assessment - road traffic (Section 5).

1.1.2 Maps referred to throughout the air quality appendix are contained in the Volume 5, Air Quality Map Book.

2 Policy framework

- 2.1.1 The London Plan¹ forms the Regional Spatial Strategy for Greater London and integrates economic, environmental, transport and social frameworks. Specifically for air quality, it seeks to achieve reductions in pollutant emissions and minimise public exposure to pollution. Policy 7.14 of the London Plan sets out a number of objectives, such as minimising increased exposure to existing poor air quality, the need to reduce emissions from demolition and construction activities using best practice and the provision of on-site mitigation measures during development.
- 2.1.2 The Mayor's Air Quality Strategy² and Supplementary Planning Guidance (SPG) on Sustainable Design and Construction³ set out actions for improving London's air quality and include measures aimed at reducing emissions from transport and new developments. A key objective of the Strategy is to make better use of the planning process so that new developments do not contribute to air pollution. Policy 3 also gives support to the expansion of competitive rail-based alternatives to aviation, including the development of a national high-speed rail network.
- 2.1.3 At the local level, all three local planning authorities in the Primrose Hill to Kilburn area have policies that seek to limit pollution levels, improve air quality and reduce emissions from development:
- the London Borough of Brent's (LBB) Core Strategy⁴ Policy CP13 specifically refers to poor air quality in the North Circular Road Regeneration Area, whilst Saved Policy EP4 of the Brent Unitary Development Plan⁵ (UDP) seeks to limit pollution especially where it affects air quality management areas (AQMA's);
 - the London Borough of Camden's (LBC) Core Strategy⁶ Policy CS16 seeks to improve health and well-being recognising the impact of poor air quality on health. The policy refers to the implementation of Camden's Air Quality Action Plan⁷ (AQAP) which aims to reduce air pollution levels;
 - the City of Westminster's (CoW) Core Strategy⁸ Policy CS30 seeks to reduce air pollution and minimise emissions of air pollution, whilst Westminster UDP⁹ Saved Policy STRA34 seeks to improve air quality through its air quality management plan and Saved Policy ENV5 encourages development that does not increase local air pollution.

¹ Greater London Authority (GLA) (2011), *The London Plan: Spatial Development Strategy for Greater London*, GLA, London.

² Greater London Authority (GLA) (2010) *Clearing the Air: The Mayor's Air Quality Strategy*, GLA, London.

³ Greater London Authority (GLA) (2006) *Sustainable Design and Construction: The London Plan Supplementary Planning Guidance*, GLA, London.

⁴ London Borough of Brent (2010) *Core Strategy Policy*

⁵ London Borough of Brent (2011) *Unitary Development Plan*

⁶ London Borough of Camden (2010) *Core Strategy Policy*.

⁷ London Borough of Camden (2013) *Air Quality Action Plan 2013-2015* (draft for consultation)

⁸ City of Westminster (2011) *Core Strategy Policy*

⁹ City of Westminster (2010) *Unitary Development Plan Saved Policy*

- 2.1.4 Local and regional guidance relevant to the consideration of climate change adaptation and air quality is provided in the draft Climate Change Adaption Strategy for London.¹⁰

¹⁰ Greater London Authority (GLA), (2010), *Draft Climate Change Adaptation Strategy for London*, GLA, London

3 Baseline air quality data

3.1 Existing air quality

Local authority review and assessment information

- 3.1.1 CoW and LBC both have designated AQMAs covering their entire administrative areas. LBB has designated an AQMA covering much of the borough. Almost the entirety of the Primrose Hill to Kilburn area is within designated AQMAs.
- 3.1.2 CoW¹¹, LBB¹² and LBC⁷ all have AQAPs in place aimed at improving air quality. Relevant policies and actions include CoW Action DEV 1 and LBC Action 14, through which developers are required to undertake an air quality assessment where a development might adversely affect local air quality and submit a mitigation plan where a development is likely to have an adverse impact on air quality.

Local air quality monitoring data

- 3.1.3 Monitoring sites within the study area that are considered relevant for this assessment are shown in Map AQ-01-003 (Volume 5, Air Quality Map Book). The following sections provide a summary of the recorded pollutant concentrations at these sites.
- 3.1.4 The pollutant concentrations can be compared to air quality standards:
- 40µg/m³ as an annual mean for NO₂ and PM₁₀;
 - 200µg/m³ one-hour mean for NO₂ not to be exceeded more than 18 times a year (equivalent to the 99.8th percentile of the one-hour mean);
 - 50µg/m³ 24-hour mean for PM₁₀ not to be exceeded more than 35 times a year (equivalent to the 90.4th percentile of the 24-hour mean); and
 - 25µg/m³ as an annual mean for PM_{2.5}.

Continuous monitoring

- 3.1.5 This section summarises the results from the continuous monitoring sites that are considered relevant for the assessment of air quality in this study area.

Table 1: Annual mean pollutant concentrations recorded at continuous monitoring sites¹³

Pollutant	Annual mean concentrations (µg/m ³)				
	2008	2009	2010	2011	2012
LBB - St Mary's Primary School, Kilburn (525175, 183301)¹⁴					
NO ₂	67	36	35	No data	No data
PM ₁₀	21	21	20	No data	No data
LBC - Swiss Cottage (526629, 184391)					
NO ₂	75	84	82	71	70

¹¹ City of Westminster (2013) *Air Quality Action Plan 2013-2018*

¹² London Borough of Brent (2012) *Air Quality Action Plan 2012-2015*

¹³ Kings College London, www.londonair.org.uk, Accessed: May 2013

¹⁴ Site closed 2010

Pollutant	Annual mean concentrations ($\mu\text{g}/\text{m}^3$)				
	2008	2009	2010	2011	2012
PM ₁₀	27	25	26	27	23
PM _{2.5}	No data	17	17	16	13
LBC - Euston Road (529884, 182639)¹⁵					
NO ₂	No data	No data	No data	123	106
CoW - Marylebone Road (528121, 182015)					
NO ₂	115	107	98	97	94
PM ₁₀	40	36	35	41	37
PM _{2.5}	20	17	17	No data	No data
CoW - Marylebone Road Filter Dynamics Measurement System (528121, 182015)					
NO ₂	35	37	32	38	31
PM ₁₀	No data	22	23	24	21
PM _{2.5}	35	37	32	38	31

Table 2: Number of hours when hourly mean NO₂ concentrations exceed 200 $\mu\text{g}/\text{m}^3$ at continuous monitoring sites^{16,17}

Site	Number of exceedances of hourly mean NO ₂ standard				
	2008	2009	2010	2011	2012
LBB- St Mary's Primary School, Kilburn (525175, 183301)	0 (112)	4 (121)	0 (131)	No data	No data
LBC - Swiss Cottage (526629, 184391)	68 (224)	215 (303)	126 (265)	76 (247)	41 (6)
LBC - Euston Road (529884, 182639)	No data	No data	No data	703 (309)	293 (260)
CoW - Marylebone Road (528121, 182015)	801 (316)	469 (262)	524 (279)	217 (244)	122 (235)

¹⁵ Site opened 2011¹⁶ 99.8th percentile of hourly mean NO₂ concentrations in brackets ($\mu\text{g}/\text{m}^3$)¹⁷ Kings College London, www.londonair.org.uk, Accessed: May 2013

Table 3: Number of days when daily mean PM₁₀ concentrations exceed 50µg/m³ at continuous monitoring sites^{18,19}

Site	Number of exceedances of daily mean PM ₁₀ standard				
	2008	2009	2010	2011	2012
LBB - St Mary's Primary School, Kilburn (525175, 183301)	10 (37)	5 (35)	2 (33)	No data	No data
LBC - Swiss Cottage (526629, 184391)	19 (45)	11 (44)	10 (40)	31 (49)	20 (42)
CoW - Marylebone Road (528121, 182015)	67 (56)	36 (51)	45 (52)	73 (58)	44 (53)
CoW - Marylebone Road Filter Dynamics Measurement System (528121, 182015)	42 (52)	44 (57)	25 (47)	57 (57)	23 (46)

Diffusion tubes

- 3.1.6 This section summarises the results from the diffusion tube sites that are considered relevant for the assessment of air quality in this study area.

Table 4: Annual mean NO₂ concentrations recorded at diffusion tube monitoring sites^{20, 21, 22}

Site	Ordnance Survey coordinates	Annual mean NO ₂ concentrations (µg/m ³)				
		2008	2009	2010	2011	2012
Frogna Way	526213, 185519	31	34	29	31	29
Swiss Cottage	526633, 184392	68	88	71	73	73
47 Fitzjohn's Avenue	526547, 185125	56	63	73	58	61
Gospel Oak School	528215, 185637	43	46	42	No data	No data
Belgrave Gardens	525958, 183503	36	40	40	No data	No data

Greater London Authority maps

- 3.1.7 Greater London Authority (GLA)²³ maps of modelled pollution levels provide further context on the spatial pattern of air pollution across London and indications of likely pollution levels across the capital. However, modelling is less robust than monitoring data and may not fully take into account local characteristics that influence pollution levels.
- 3.1.8 GLA pollution maps estimate that annual NO₂ concentrations exceed air quality standards at or near main roads within the study area. The maps show no significant change in NO₂ levels from 2008 to 2011.
- 3.1.9 Annual mean PM₁₀ concentrations have reduced marginally at all locations between 2008 and 2011 according to the GLA modelling estimates, although not along main

¹⁸ 90.4th percentile of daily mean PM₁₀ concentrations in brackets (µg/m³)

¹⁹ Kings College London, www.londonair.org.uk, Accessed: May 2013

²⁰ London Borough of Camden (2012) *Air Quality Updating and Screening Assessment*.

²¹ City of Westminster (2010) *Air Quality Progress Report*.

²² City of Westminster (2011) *Air Quality Progress Report*.

²³ Greater London Authority (GLA) (2010) *London Atmospheric Emissions Inventory 2008 Concentration Maps*; <http://data.london.gov.uk/laei-2008-concentration-maps>; Accessed: May 2013.

roads such as Euston Road and Finchley Road, which in 2011 were still not meeting the air quality standard. The number of days on which the PM₁₀ concentrations exceed the standard is estimated to have fallen between 2008 and 2011, although the frequency of exceedances is higher near busy roads.

- 3.1.10 PM_{2.5} exceedances across the boroughs are estimated to have decreased between 2008 and 2011 and are predicted to be confined to locations along busy roads.

Background pollutant concentrations

- 3.1.11 Estimates of background air quality were obtained from the Department for Environment, Food and Rural Affairs (Defra) maps²⁴. Background NO₂ concentrations are close to or exceeding air quality standards throughout the study area. Background PM₁₀ levels are within air quality standards throughout the study area. NO₂ annual mean concentrations were in the range 19.2µg/m³ to 39.0µg/m³ in 2012. PM₁₀ annual mean concentrations were in the range 16.3µg/m³ to 22.0µg/m³ in 2012.
- 3.1.12 Defra background concentrations for the relevant assessment years were used in the Design Manual for Roads and Bridges (DMRB)²⁵ and ADMS-Roads assessment.

Local emission sources

- 3.1.13 The main source of pollution within the study area is road vehicles. Major roads include Haverstock Road, Adelaide Road, Avenue Road, Finchley Road, Abbey Road and Kilburn High Road. Other emission sources include permitted Part A^{26, 27} processes, comprising four waste transfer facilities at the Hendon Transfer Station, Upside Railway Yard and two facilities at Claremont Way. Due to the distance of Part A processes from the Proposed Scheme and the nature of their emissions, it is unlikely that these will have an effect on local air quality. Contributions to local pollutant concentrations made by these industrial installations are included within background concentrations used in this assessment.

3.2 Receptors

Human

Construction phase

- 3.2.1 There are many potential receptors in the Primrose Hill to Kilburn area, given its urban nature and the proximity of many residential properties, commercial businesses and community facilities to construction sites and roads where traffic flows could change. Receptors at greatest risk of dust effects are indicated in Map AQ-02-003-01 (Volume 5, Air Quality Map Book). Receptors assessed for changes in traffic are shown in Map AQ-01-003.

²⁴ Department for Environment, Food and Rural Affairs (Defra) (2010) *Defra background maps 2010*; <http://laqm.defra.gov.uk/maps/maps2010.html>; Accessed: July 2013.

²⁵ Highways Agency, (2007), *The Design Manual for Roads and Bridges (Volume 11, Section 3, Part 1 Air Quality HA207/07)*

²⁶ Pollution Prevention and Control Act 1999 London, Her Majesty's Stationery Office

²⁷ The Environmental Permitting (England and Wales) Regulations 2010, London, Her Majesty's Stationery Office

Operational phase

- 3.2.2 There are many receptors in the Primrose Hill to Kilburn area and high densities of residential properties. Several sensitive receptors identified along the route include a healthcare centre located on Adelaide Road and schools near to the route, such as St Eugene De Mazenod School, George Eliot Junior School, Quintin Kynaston School and Haverstock School.

Ecological

Construction phase

- 3.2.3 One ecological receptor with statutory designations within the Primrose Hill to Kilburn area is considered at risk of being affected by air quality as a result of traffic during the construction phase. This is Hampstead Heath Woods SSSI. This has been designated for habitats of acid sessile oak-beech woodland. A local nature reserve is located at Adelaide Road.

Operational phase

- 3.2.4 No ecological receptors in the Primrose Hill to Kilburn area are considered likely to be affected by air quality as a result of the operational phase.

4 Dust impact evaluation and risk rating

4.1.1 The following sections provide details of the assessment of construction impacts following the Institute of Air Quality Management (IAQM) guidance²⁸. Where considered useful to identify receptors and their relationship to the construction activity, a specific figure is provided.

Table 5: Evaluation and risk rating of construction activities

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact (with draft Code of Construction Practice mitigation measures)	Principal justifications 1. Dust emission class 2. Sensitivity of surrounding area
Euston Station tunnel portal						
Demolition	20-100m	Medium	Medium	Low	Negligible	1. Less than 20,000m ³ waste generated during demolition Material with a high dust potential (concrete) 2. No receptors within 20m of site within study area
Earthworks	N/A	N/A	N/A	N/A	N/A	No earthworks on site
Construction	20-50m	Medium	Medium	Low	Negligible	1. On-site concrete batching, piling, use of dusty construction materials. Assumed less than 100,000m ³ building material volume at Euston approach 2. No receptors within 20m of site within study area
Trackout	N/A	N/A	N/A	N/A	N/A	No track-out near to the study area boundary

²⁸ Institute of Air Quality Management (IAQM), (2011), *Guidance on the assessment of the impacts of construction on air quality and the determination of their significance*

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Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact (with draft Code of Construction Practice mitigation measures)	Principal justifications 1. Dust emission class 2. Sensitivity of surrounding area
HS1-HS2 Link tunnel portal (Volume 5, Map AQ-02-03-01, Figure 3.1)						
Demolition	Less than 20m	Medium	High	High	Slight adverse	1. Potentially dusty material generated during demolition 2. Densely populated area, 10-100 dwellings within 20m of site
Earthworks	N/A	N/A	N/A	N/A	N/A	No earthworks on site
Construction	Less than 20m	Medium	High	High	Slight adverse	1. Piling on site, use of dusty construction materials. 2. Densely populated area, 10-100 dwellings within 20m of site
Trackout	20-50m	Medium	Medium	High	Negligible	1. 25-100 heavy goods vehicle (HGV) trips per day 2. Densely populated area, 10-100 dwellings within 20m of site
Adelaide Road vent shaft (Volume 5, Map AQ-02-03-01, Figure 3.2)						
Demolition	N/A	N/A	N/A	N/A	N/A	No demolition on site
Earthworks	Less than 20m	Medium	High	High	Slight adverse	1. 7,000m ³ of contaminated land removed from site 2. Densely populated area, 10-100 dwellings within 20m of site
Construction	20-50m	Medium	Medium	High	Negligible	1. Concrete batching on site, use of potentially dusty construction materials 2. Densely populated area, 10-100 dwellings within 20m of site
Trackout	Less than 20m	Medium	Medium	High	Negligible	1. 25-100 HGV trips per day 2. Densely populated area, 10-100 dwellings within 20m of site

Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact (with draft Code of Construction Practice mitigation measures)	Principal justifications 1. Dust emission class 2. Sensitivity of surrounding area
Adelaide Road vent shaft (ecological receptor) (Volume 5, Map AQ-02-03-01, Figure 3.2)						
Demolition	N/A	N/A	N/A	N/A	N/A	No demolition on Adelaide Road construction site
Earthworks	Less than 20m	Medium	High	Medium	Negligible	1. 7,000m ³ of contaminated land removed from site 2. Locally designated ecological site
Construction	Less than 20m	Medium	High	Medium	Negligible	1. Concrete batching on site, use of potentially dusty construction materials 2. Locally designated ecological site
Trackout	Less than 20m	Medium	Medium	Medium	Negligible	1. 25-100 HGV trips per day 2. Locally designated ecological site
Alexandra Place vent shaft (Volume 5, Map AQ-02-03-01, Figure 3.3)						
Demolition	Less than 20m	Medium	High	High	Slight adverse	1. Potentially dusty material generated during demolition 2. Densely populated area, 10-100 dwellings within 20m of site
Earthworks	Less than 20m	Medium	High	High	Slight adverse	1. Less than ^{20,000t} of contaminated land removed from site Site area greater than 2,500m ² 2. Densely populated area, 10-100 dwellings within 20m of site
Construction	Less than 20m	Medium	High	High	Slight adverse	1. Use of potentially dusty construction materials, concrete batching on site

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Activity	Distance to nearest receptor	Dust emission class	Dust risk category	Sensitivity of surrounding area	Magnitude of impact (with draft Code of Construction Practice mitigation measures)	Principal justifications 1. Dust emission class 2. Sensitivity of surrounding area
						2. Densely populated area, 10-100 dwellings within 20m of site
Trackout	Less than 20m	Medium	Medium	High	Negligible	1. 25-100 HGV trips per day 2. Densely populated area, 10-100 dwellings within 20m of site

Table 6: Summary of construction dust impacts and effects

Location	Magnitude of impact	Effect of dust-generating activities	Additional mitigation
Euston Station tunnel portal	Negligible	Not significant	None required
HS1-HS2 Link tunnel portal	Slight adverse	Not significant	None required
Adelaide Road vent shaft	Negligible	Not significant	None required
Alexandra Place vent shaft	Slight adverse	Not significant	None required

5 Air quality assessment - road traffic

5.1 Overall assessment approach

- 5.1.1 The air quality assessment for road related emissions has used three different approaches based on the scale of changes in traffic and road alignment. Where the Design Manual for Roads and Bridges (DMRB) thresholds detailed in the Scope and Methodology Report (SMR) (Volume 5: Appendix CT-001-000/1) will not be exceeded, no additional assessment is required as the air quality impacts will be minimal. If these thresholds are breached then a quantitative assessment has been carried out.
- 5.1.2 Where the road configuration is straightforward, the DMRB screening method has been used to predict changes in air quality. Where the road layout is considered to be complex or where the use of the DMRB screening method indicated that there will be a potential exceedance of air quality standards, the atmospheric dispersion model ADMS-Roads has been used for the assessment. Professional judgment has been used to select the appropriate tool for each area.
- 5.1.3 In this study area both the DMRB screening method and the ADMS-Roads model were used for the assessment.
- 5.1.4 An assessment of nutrient nitrogen deposition was also undertaken at the Hampstead Heath Woods SSSI due to its proximity to the B519 Hampstead Lane, where changes in construction traffic were found to meet the DMRB criteria for further assessment. Values for the critical level and critical load, and baseline nitrogen deposition rates for the main habitats within the SSSI were taken from the Air Pollution Information System website²⁹.
- 5.1.5 Predicted NO_x concentrations as a result of vehicle emissions were used to quantify nutrient nitrogen deposition in terms of in kilograms of nitrogen per hectare per year (kg N/ha/year). Nitrogen deposition can lead to soil eutrophication and impacts on ecosystem biodiversity.
- 5.1.6 The main habitat for Hampstead Heath Woods SSSI is broadleaved, mixed and yew woodland, with an empirical critical load of 10-20kg N/ha/year and an average baseline deposition rate of 36.3kg N/ha/year in 2011. The existing nitrogen deposition rate currently exceeds the upper end of the critical load range.
- 5.1.7 Future deposition rates for these habitats were calculated following the DMRB methodology. The predicted nitrogen deposition rate was calculated for the future construction year (2017) with and without the Proposed Scheme. The predicted contribution of the traffic to nitrogen deposition rate was compared to 1% of the critical load, as an initial test of insignificance, following the guidance used by the Environment Agency and Natural England for assessing the impacts of installations under the Environmental Permitting Regulations.

²⁹ Air Pollution Information System; Site relevant critical loads and source attribution; <http://www.apis.ac.uk/src/>; Accessed August 2013.

Assessing congestion

- 5.1.8 To assess the impact of congestion on the DMRB assessment, an additional sensitivity analysis was carried out. This assumed a speed of 10kph in all scenarios for all links where the speed in the traffic model exceeded 10kph, in order to identify locations where queuing traffic might give rise to higher concentrations and require further assessment. The results of this sensitivity analysis are presented alongside the main results.
- 5.1.9 For the ADMS-Roads modelling, queues were assumed to occur on roads with an average speed of less than 50% of the speed limit. Queue speeds of 5kph were assumed. A queue length of 25-50m was assumed, depending on the speed on the road³⁰. In the absence of information on the occurrence of queuing, it was assumed that queuing occurred between 7am and 7pm.

5.2 Model inputs and verification

Model parameters for detailed assessment

- 5.2.1 The ADMS-Roads model was used for the detailed assessment. A surface roughness length of 1.5m, meteorological site surface roughness length of 0.2m, minimum Monin Obukhov length of 100m and latitude of 51.54 degrees were used in the detailed assessment. All other model parameters were model default settings. Meteorological data from the London Heathrow monitoring site was used.

Model verification

- 5.2.2 Since the model predicts nitrogen oxide (NO_x) contributions for the modelled roads, this was initially compared to the NO_x road contribution derived from NO_x concentrations (where available) measured at monitoring sites and Defra background maps.
- 5.2.3 Roadside monitoring sites were chosen from across the traffic model area, which extends both west and south of the study area. This allowed a greater number of sites to be included in the verification. Sites where nearby busy roads were not included in the traffic model data set (and which, therefore, could not be modelled correctly as roadside sites with the traffic data set) were excluded from assessment. The results of this comparison are shown in Table 7.

Table 7: Comparison of monitored and modelled NO_x concentrations for verification

Site	Monitored total NO ₂	Monitored total NO _x	Background NO ₂	Background NO _x	Monitored road NO _x	Modelled road NO _x	Monitored / modelled road NO _x
Camden Euston Road (AURN site)	106.1	350.0	51.0	102.3	247.6	83.2	3.0
Camden Shaftesbury Avenue (AURN)	71.2	163.0	56.4	116.4	46.6	23.8	2.0

³⁰ Queue length (in metres) was calculated using the following formula: $l = 50 - ((v/0.5v_l) \times 25)$, where l = queue length, v = road speed, v_l = speed limit

Site	Monitored total NO ₂	Monitored total NO _x	Background NO ₂	Background NO _x	Monitored road NO _x	Modelled road NO _x	Monitored / modelled road NO _x
site)							
Westminster Marylebone Road (AURN site)	93.6	312.8	43.0	82.1	230.7	80.5	2.9
Camden 19 Kentish Town Road (Diffusion Tube)	59.0	-	34.7	61.7	46.9	20.5	2.3
Camden 26 Camden Road (Diffusion Tube)	67.0	-	38.7	71.5	60.2	43.1	1.4

5.2.4 The calculated model adjustment factor for the road contribution of NO_x was 2.3. This was applied to all NO_x results from the ADMS-Roads modelling. This is line with Defra guidance³¹ on model verification.

5.2.5 A final check was then made to compare the total NO₂ concentrations from the modelling to the monitored data. This is shown in Table 8.

Table 8: Comparison of monitored and modelled annual average NO₂ concentrations

Site	Monitored concentration (µg/m ³)	Modelled concentration (µg/m ³)	Difference [(modelled - monitored)/monitored] x 100
Camden Euston Road (AURN site)	106.1	111.7	5.4%
Camden Shaftesbury Avenue (AURN site)	71.2	81.1	13.8%
Westminster Marylebone Road (AURN site)	93.6	103.8	10.8%
Camden 19 Kentish Town Road (Diffusion Tube)	59.0	59.0	0.1%
Camden 26 Camden Road (Diffusion Tube)	67.0	78.3	16.8%

5.2.6 As the majority of modelled NO₂ concentrations were within 25% of the monitored concentrations, no further adjustment was undertaken.

³¹ Department for Environment, Food and Rural Affairs (2009) *Technical Guidance Note LAQM TG(09)*

5.3 Construction traffic model

5.3.1 Construction traffic data used in this assessment are detailed in Volume 5, Appendix TR-001-000. Scenarios assessed correspond to three peak phases of construction:

- test 1, representing 2017;
- test 2, representing 2019; and
- test 3, representing 2021.

Receptors assessed

5.3.2 For all road links where DMRB criteria for local air quality were met, a number of receptors representative of worst-case exposure locations were selected for assessment. These included locations representative of highest concentrations along the roads, including closest to junctions or to the road itself.

5.3.3 All receptors where DMRB screening identified a likely moderate adverse or substantial adverse impact were modelled within ADMS-Roads. Additional receptors close to DMRB receptors were added in order to ensure that worst-case exposure locations were captured.

5.3.4 Receptors assessed using the DMRB screening methodology and detailed ADMS-Roads modelling are listed in Table 9 and shown in Map AQ-001-03 (Volume 5, Air Quality Map Book). Ecological receptors were assessed in transects up to 200m from the nearest relevant road.

Table 9: Modelled receptors (construction phase)

Receptor	Description/location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme	
			DMRB assessment	ADMS-Roads assessment
3-1	Property at the northern corner of the junction of Finchley Road and Hilgrove Road	526621, 184130	Test 2, test 3	-
3-2	Property opposite the junction of Whitestone Lane and East Heath Road	526340, 186242	Test 2	Test 2
3-3	Property at the junction of Fleet Road and Constantine Road (White Horse public house)	527335, 185511	Test 2	Test 2
3-4	Property at the southern junction of Golders Green Road and Finchley Road	525142, 187413	Test 2	-
3-5	Property on Brent Park Road, nearest to M1.	522704, 187554	Test 2, test 3	Test 2, test 3
3-6	Property at the northern corner of Cricklewood Lane and Hendon Way	524635, 186283	Test 2, test 3	Test 2, test 3
3-7	Property at the southern corner of Fitzjohn's Avenue and Arkwright Road	526514, 185417	Test 2	Test 2
3-8	Property at the junction of Avenue Road and Finchley Road	526670, 184256	Test 2, test 3	Test 2, test 3

Receptor	Description/location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme	
			DMRB assessment	ADMS-Roads assessment
3-9	Property at the junction of Finchley Road and College Crescent	526647, 184405	Test 2, test 3	Test 2, test 3
3-10	Property at the junction of South End Road and Pond Street	527263, 185502	Test 2	-
3-11	Property on Prince Albert Road, near Regal Lane	528492, 183644	Test 1, test 2	-
3-12	Property at the junction of Wayside and Hendon Way	524259, 187209	Test 3	-
3-13	Property at the junction of Canfield Gardens and Finchley Road, near Finchley Road Underground Station	526306, 184681	Test 2, test 3	Test 2, test 3
3-14	Property on Brent Park Road , near Brent Cross Shopping Centre	522962, 187698	Test 3	-
3-15	Property at the western corner of Chalk Farm Road and Harmond Street	528524, 184281	Test 1, test 2	-
3-16	Property at the junction of Haverstock Hill and Regent's Park Road	528175, 184388	Test 1, test 2	Test 1, test 2
3-17	Property on the junction of Agincourt Road and Fleet Road	527776, 185419	Test 2	-
3-18	Property on the junction of Spaniards Road and North End Way	526291, 186474	Test 2	-
3-19	Property at the southern corner of the junction of Rosslyn Hill and Lyndhurst Road	527027, 185377	Test 2	-
3-20	Property at the junction of Regents Park Road and Albert Terrace	528067, 183763	Test 1	-
3-21	Property at the southern corner of the junction of Avenue Road and Queen's Grove	526967, 183807	Test 2	Test 2
3-22	Bus stop opposite the junction of Edgware Road and Brent Park Road	522403, 187479	Test 2	-
3-23	Property opposite the junction of Southampton Road and Dunboyne Road	527842, 185351	Test 2	-
3-24	Site on Primrose Hill, near Prince Albert Road	528636, 183610	Test 1, test 2	-
3-25	Property at the eastern junction of Brentfield Gardens and Highfield Avenue	523794, 187814	Test 3	-
3-26	Property at the southern junction of Arkwright Road and Finchley Road	526055, 185107	Test 2, test 3	Test 2, test 3
3-27	Property at the eastern corner of the junction of Boundary Road and Finchley Road	526630, 183863	Test 2, test 3	-

Receptor	Description/location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme	
			DMRB assessment	ADMS-Roads assessment
3-28	Property at the northern corner of the junction of West End Lane and Finchley Road	525649, 185339	Test 2, test 3	Test 2, test 3
3-29	Property at the southern corner of the junction of Heath Street and Hampstead High Street	526371, 185738	Test 2	-
3-30	Property at the junction of Hampstead Lane and The Bishops Avenue	526774, 187522	Test 2	Test 2
3-31	Property at the northern corner of the junction of Pond Street and Rosslyn Hill	527040, 185419	Test 2	-
3-32	Property at the eastern corner of the junction of Hendon Way and Cricklewood Lane	524649, 186252	Test 2, test 3	Test 2, test 3
3-33	Property at the northern corner of the junction of Adelaide Road and Primrose Hill Road	527526, 184366	Test 1, test 2	-
3-34	Property at the junction of Hilgrove Road and Belsize Road	526375, 184140	Test 2	-
3-35	Property at the southern corner of the junction of Adelaide Road and Primrose Hill Road, near Quickswood	527495, 184323	Test 2	-
3-36	Property at the northern corner of the junction of North Circular Road and Brent Cross Flyover	523555, 187983	Test 3	-
3-37	Property at the junction of Adelaide Road and Avenue Road	526746, 184138	Test 2, test 3	Test 2, test 3
3-38	Property on Eton Avenue, opposite the junction of Eton Avenue and Lancaster Grove	527363, 184486	Test 2	-
3-39	Property at the junction of Adelaide Road and Winchester Road	526910, 184212	Test 2, test 3	-
3-40	Property at the northern corner of the junction of Chalk Farm Road and Ferdinand Street	528460, 184301	Test 1, test 2,	Test 1, test 2
3-41	Property at the southern corner of the junction of Englands Lane and Haverstock Hill	527688, 184760	Test 2	Test 2
3-42	Property at the junction of Mansion Gardens and Branch Hill	526011, 186250	Test 2	Test 2
3-43	Property at the junction of Finchley Road and Marlborough Place	526585, 183456	Test 2, test 3	Test 2, test 3

Receptor	Description/location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme	
			DMRB assessment	ADMS-Roads assessment
3-44	Property at the junction of Queen's Grove and Finchley Road	526598, 183540	Test 2, test 3	-
3-45	Property at the southern corner of the junction of Finchley Road and Hendon Way	525054, 186028	Test 2, test 3	-
3-46	Property at the southern corner of the junction of Boundary Road and St John's Wood Park	526721, 183853	Test 2	-
3-47	Property near the junction of Layfield Road and Dallas Road	522576, 187643	Test 2, test 3	-
3-48	Property near the junction of Tilling Road and Claremont Road	523362, 187602	Test 3	-
3-50	16a Finchley Road	526623, 183472	-	Test 2, test 3
3-51	14 Finchley Road	526628, 183460	-	Test 2, test 3
3-52	Balmoral Court, 20 Queens Terrace	526651, 183426	-	Test 2, test 3
3-53	1 Finchley Road	526697, 183310	-	Test 2, test 3
3-54	Birley Lodge, 63 Acacia Road	526764, 183280	-	Test 2, test 3
3-55	68 Queens Grove	526552, 183510	-	Test 2, test 3
3-56	56 The Marlowes	526613, 183684	-	Test 2, test 3
3-57	8 The Marlowes	526628, 183841	-	Test 2, test 3
3-58	16 The Marlowes	526625, 183815	-	Test 2, test 3
3-59	38 The Marlowes	526619, 183749	-	Test 2, test 3
3-60	Jevons House, Alexandra Road	526613, 184087	-	Test 2, test 3
3-61	1 Court Close, St. Johns Wood Park	526653, 184124	-	Test 2, test 3
3-62	1 Court Close, St. Johns Wood Park	526670, 184091	-	Test 2, test 3
3-63	115 Finchley Road	526631, 184239	-	Test 2, test 3
3-64	Northways, College Crescent	526632, 184399	-	Test 2, test 3
3-65	Swiss Cottage Post Office	526462, 184504	-	Test 2, test 3
3-66	17-18 New College Parade	526472, 184532	-	Test 2, test 3
3-67	6 Fairfax Mansions, Finchley Road	526445, 184514	-	Test 2, test 3
3-68	219c Finchley Road	526305, 184680	-	Test 2, test 3
3-69	219c Finchley Road	526307, 184688	-	Test 2, test 3
3-70	3 Sumpter Close	526330, 184701	-	Test 2, test 3
3-71	150a Finchley Road	526247, 184838	-	Test 2, test 3

Receptor	Description/location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme	
			DMRB assessment	ADMS-Roads assessment
3-72	132 Finchley Road	526282, 184780	-	Test 2, test 3
3-73	Midland Court, Finchley Road	526228, 184875	-	Test 2, test 3
3-74	291 Finchley Road	526160, 184958	-	Test 2, test 3
3-75	166a Finchley Road	526180, 184981	-	Test 2, test 3
3-76	Arkwright Mansions, Finchley Road	526070, 185093	-	Test 2, test 3
3-77	333-339 Finchley Road	526011, 185109	-	Test 2, test 3
3-78	Hatstone Court, 335 Finchley Road	526055, 185071	-	Test 2, test 3
3-79	192 Finchley Road	526128, 185036	-	Test 2, test 3
3-80	Langland Mansions, 228 Finchley Road	525923, 185238	-	Test 2, test 3
3-81	Dunrobin Court, 389 Finchley Road	525861, 185243	-	Test 2, test 3
3-82	Alvanley Court, Finchley Road	525758, 185318	-	Test 2, test 3
3-83	463a Finchley Road	525670, 185322	-	Test 2, test 3
3-84	Unit 5-6, Palace Court, 250 Finchley Road	525698, 185340	-	Test 2, test 3
3-85	St. Andrews Church Hall, Frognal Lane	525673, 185354	-	Test 2, test 3
3-86	Avenue Mansions, Finchley Road	525521, 185446	-	Test 2, test 3
3-87	Avenue Mansions, Finchley Road	525486, 185478	-	Test 2, test 3
3-88	Avenue Mansions, Finchley Road	525501, 185464	-	Test 2, test 3
3-89	38 Heath Drive	525543, 185480	-	Test 2, test 3
3-90	529a Finchley Road	525312, 185624	-	Test 2, test 3
3-91	Apartment 4, Westfield Lodge, 302 Finchley Road	525335, 185647	-	Test 2, test 3
3-92	553 Finchley Road	525198, 185757	-	Test 2, test 3
3-93	326 Finchley Road	525221, 185779	-	Test 2, test 3
3-94	348 Finchley Road	525149, 185965	-	Test 2, test 3
3-95	589a-589b Finchley Road	525141, 185895	-	Test 2, test 3
3-96	364 Finchley Road	525102, 186050	-	Test 2, test 3
3-97	360 Finchley Road	525108, 186029	-	Test 2, test 3
3-98	Vernon Court, Hendon Way	524976, 186035	-	Test 2, test 3
3-99	Greenbanks, Lyndale	524920, 186065	-	Test 2, test 3
3-100	Hi-Lo, Hocroft Walk, Hendon Way	524792, 186170	-	Test 2, test 3

Receptor	Description/location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme	
			DMRB assessment	ADMS-Roads assessment
3-101	24 Hocroft Avenue	524699, 186163	-	Test 2, test 3
3-102	56 Hendon Way	524599, 186367	-	Test 2, test 3
3-103	49 Hendon Way	524522, 186439	-	Test 2, test 3
3-104	90 Hendon Way	524520, 186580	-	Test 2, test 3
3-105	47 Heath Street	526359, 185769	-	Test 2
3-106	51-53 Heath Street	526364, 185782	-	Test 2
3-107	19 Heath Street	526355, 185670	-	Test 2
3-108	16-18 Heath Street	526374, 185656	-	Test 2
3-109	28 Church Row	526362, 185644	-	Test 2
3-110	57 Hampstead High Street	526384, 185740	-	Test 2
3-111	44 Heath Street	526371, 185739	-	Test 2
3-112	42 Hampstead High Street	526417, 185732	-	Test 2
3-113	64 Hampstead High Street	526417, 185711	-	Test 2
3-114	19 Hampstead High Street	526544, 185667	-	Test 2
3-115	80 Rosslyn Hill	526682, 185621	-	Test 2
3-116	1 Mulberry Close	526713, 185591	-	Test 2
3-117	40a Rosslyn Hill	526784, 185583	-	Test 2
3-118	53 Rosslyn Hill	526776, 185557	-	Test 2
3-119	20 Rosslyn Hill	526901, 185511	-	Test 2
3-120	23 Rosslyn Hill	526936, 185448	-	Test 2
3-121	13 Rosslyn Hill	526984, 185408	-	Test 2
3-122	6 Rosslyn Hill	527012, 185437	-	Test 2
3-123	12a Rosslyn Hill	526976, 185466	-	Test 2
3-124	1 Pond Street	527068, 185436	-	Test 2
3-125	5c Pond Street	527105, 185450	-	Test 2
3-126	9b Rosslyn Hill	527037, 185374	-	Test 2
3-127	7 Rosslyn Hill	527060, 185358	-	Test 2
3-128	242 Haverstock Hill	527175, 185289	-	Test 2
3-129	5 Englands Lane	527648, 184710	-	Test 2
3-130	Flat A, 2 Primrose Gardens	527554, 184634	-	Test 2

Receptor	Description/location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme	
			DMRB assessment	ADMS-Roads assessment
3-131	57 Englands Lane	527500, 184550	-	Test 2
3-132	62d Haverstock Hill	527988, 184584	-	Test 1, test 2
3-133	83a-85a Haverstock Hill	527803, 184687	-	Test 2
3-134	92 Haverstock Hill	527838, 184692	-	Test 2
3-135	18b-18f Haverstock Hill	528162, 184428	-	Test 1, test 2
3-136	24 Haverstock Hill	528067, 184505	-	Test 1, test 2
3-137	Farjeon House, Hilgrove Road	526621, 184130	-	Test 2, test 3
3-138	23 East Heath Road	526339, 186242	-	Test 2
3-139	154-156 Fleet Road	527334, 185511	-	Test 2
3-140	1 Golders Green Road	525142, 187412	-	Test 2
3-141	40 Brent Park Road	522704, 187554	-	Test 2, test 3
3-142	169 Cricklewood Lane	524635, 186282	-	Test 2, test 3
3-143	75 Fitzjohns Avenue	526513, 185416	-	Test 2
3-144	98 Finchley Road	526670, 184255	-	Test 2, test 3
3-145	Northways, College Crescent	526646, 184404	-	Test 2, test 3
3-146	Warwick Mansions, Pond Street	527263, 185501	-	Test 2
3-147	5 Prince Albert Road	528492, 183643	-	Test 1, test 2
3-148	Pallester Court, Wayside	524258, 187209	-	Test 3
3-149	219c Finchley Road	526305, 184680	-	Test 2, test 3
3-150	136 Brent Park Road	522961, 187698	-	Test 3
3-151	36 Chalk Farm Road	528524, 184281	-	Test 1, test 2
3-152	155a Regents Park Road	528174, 184388	-	Test 1, test 2
3-153	2 Fleet Road	527776, 185419	-	Test 2
3-154	Heath House, North End Way	526291, 186474	-	Test 2
3-155	9d Rosslyn Hill	527027, 185377	-	Test 2
3-156	6 Albert Terrace	528066, 183762	-	Test 2
3-157	71 Avenue Road	526967, 183807	-	Test 2
3-158	57 Hampstead High Street	526383, 185739	-	Test 2
3-159	Ludham, Lismore Circus	527841, 185351	-	Test 2

Receptor	Description/location	Ordnance Survey coordinates	Scenarios assessed with the Proposed Scheme	
			DMRB assessment	ADMS-Roads assessment
3-160	1 Gloucester Avenue	528635, 183609	-	Test 1, test 2
3-161	82 Highfield Avenue	523794, 187813	-	Test 3
3-162	Arkwright Mansions, Finchley Road	526054, 185106	-	Test 2, test 3
3-163	2 The Marlowes	526629, 183862	-	Test 2, test 3
3-164	465a Finchley Road	525649, 185338	-	Test 2, test 3
3-165	44 Heath Street	526370, 185738	-	Test 2
3-166	50a Hampstead Lane	526773, 187521	-	Test 2
3-167	2 Rosslyn Hill	527039, 185419	-	Test 2
3-168	284 Cricklewood Lane	524649, 186252	-	Test 2, test 3
3-169	Rackstraw House, 40 Primrose Hill Road	527525, 184366	-	Test 1, test 2
3-170	Sheridan Court, 47 Belsize Road	526374, 184139	-	Test 2
3-171	65 Quickswood	527495, 184322	-	Test 2
3-172	1 Brent Cross Gardens	523554, 187983	-	Test 3
3-173	Regency Lodge, Adelaide Road	526745, 184138	-	Test 2, test 3
3-174	11 Eton Avenue	527362, 184485	-	Test 2
3-175	Taplow, Adelaide Road	526909, 184211	-	Test 2, test 3
3-176	48 Chalk Farm Road	528460, 184300	-	Test 1, test 2
3-177	Stanbury Court, 99 Haverstock Hill	527687, 184759	-	Test 2
3-178	Savoy Court, Firecrest Drive	526010, 186249	-	Test 2
3-179	Apsley House, 23-29 Finchley Road	526585, 183455	-	Test 2, test 3
3-180	68 Queens Grove	526598, 183539	-	Test 2, test 3
3-181	617 Finchley Road	525054, 186027	-	Test 2, test 3
3-182	8 St. Johns Wood Park	526720, 183853	-	Test 2
3-183	101 Dallas Road	522575, 187643	-	Test 2, test 3
3-184	Dyson Court, Whitefield Avenue	523362, 187601	-	Test 3

Background concentrations

The background concentrations used in the DMRB and ADMS-Roads assessments are shown in Table 10 taken from the Defra maps²⁴. Ecological shown in Table 10 taken from the Defra maps²⁴. Ecological receptors are listed in

5.3.5 Table 12, including background nitrogen (N) deposition from the Air Pollution Information System (APIS) website²⁹.

Table 10: Background 2012 concentrations at assessed receptors

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-1) Property at the northern corner of the junction of Finchley Road and Hilgrove Road	72.5	39.0	21.2
(3-2) Property opposite the junction of Whitestone Lane and East Heath Road	46.0	27.7	18.1
(3-3) Property at the junction of Fleet Road and Constantine Road (White Horse public house)	58.8	33.3	19.4
(3-4) Property at the southern junction of Golders Green Road and Finchley Road	51.3	29.7	19.2
(3-5) Property on Brent Park Road, nearest to M1.	67.3	36.4	21.9
(3-6) Property at the northern corner of Cricklewood Lane and Hendon Way	55.2	31.3	20.0
(3-7) Property at the southern corner of Fitzjohn's Avenue and Arkwright Road	57.7	33.0	19.6
(3-8) Property at the junction of Avenue Road and Finchley Road	72.5	39.0	21.2
(3-9) Property at the junction of Finchley Road and College Crescent	72.5	39.0	21.2
(3-10) Property at the junction of South End Road and Pond Street	58.8	33.3	19.4
(3-11) Property on Prince Albert Road, near Regal Lane	67.5	37.1	21.0
(3-12) Property at the junction of Wayside and Hendon Way	55.6	31.5	19.9
(3-13) Property at the junction of Canfield Gardens and Finchley Road, near Finchley Road Underground Station	72.5	39.0	21.2
(3-14) Property on Brent Park Road, near Brent Cross Shopping Centre	67.3	36.4	21.9
(3-15) Property at the western corner of Chalk Farm Road and Harmond Street	67.2	36.8	20.9
(3-16) Property at the junction of Haverstock Hill and Regent's Park Road	67.2	36.8	20.9
(3-17) Property on the junction of Agincourt Road and Fleet Road	58.8	33.3	19.4
(3-18) Property on the junction of Spaniards Road and North End Way	46.0	27.7	18.1
(3-19) Property at the southern corner of the junction of Rosslyn Hill and Lyndhurst Road	58.8	33.3	19.4

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-20) Property at the junction of Regents Park Road and Albert Terrace	67.5	37.1	21.0
(3-21) Property at the southern corner of the junction of Avenue Road and Queen's Grove	69.3	37.8	20.8
(3-22) Bus stop opposite the junction of Edgware Road and Brent Park Road	67.3	36.4	21.9
(3-23) Property opposite the junction of Southampton Road and Dunboyne Road	58.8	33.3	19.4
(3-24) Site on Primrose Hill, near Prince Albert Road	67.5	37.1	21.0
(3-25) Property at the eastern junction of Brentfield Gardens and Highfield Avenue	67.1	36.5	22.0
(3-26) Property at the southern junction of Arkwright Road and Finchley Road	57.7	33.0	19.6
(3-27) Property at the eastern corner of the junction of Boundary Road and Finchley Road	69.3	37.8	20.8
(3-28) Property at the northern corner of the junction of West End Lane and Finchley Road	56.9	32.7	20.0
(3-29) Property at the southern corner of the junction of Heath Street and Hampstead High Street	57.7	33.0	19.6
(3-30) Property at the junction of Hampstead Lane and The Bishops Avenue	44.8	26.7	17.8
(3-31) Property at the northern corner of the junction of Pond Street and Rosslyn Hill	58.8	33.3	19.4
(3-32) Property at the eastern corner of the junction of Hendon Way and Cricklewood Lane	55.2	31.3	20.0
(3-33) Property at the northern corner of the junction of Adelaide Road and Primrose Hill Road	61.9	34.7	19.9
(3-34) Property at the junction of Hilgrove Road and Belsize Road	72.5	39.0	21.2
(3-35) Property at the southern corner of the junction of Adelaide Road and Primrose Hill Road, near Quickswood	61.9	34.7	19.9
(3-36) Property at the northern corner of the junction of North Circular Road and Brent Cross Flyover	67.1	36.5	22.0
(3-37) Property at the junction of Adelaide Road and Avenue Road	72.5	39.0	21.2
(3-38) Property on Eton Avenue, opposite the junction of Eton Avenue and Lancaster Grove	61.9	34.7	19.9

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-39) Property at the junction of Adelaide Road and Winchester Road	72.5	39.0	21.2
(3-40) Property at the northern corner of the junction of Chalk Farm Road and Ferdinand Street	67.2	36.8	20.9
(3-41) Property at the southern corner of the junction of Englands Lane and Haverstock Hill	61.9	34.7	19.9
(3-42) Property at the junction of Mansion Gardens and Branch Hill	46.0	27.7	18.1
(3-43) Property at the junction of Finchley Road and Marlborough Place	69.3	37.8	20.8
(3-44) Property at the junction of Queen's Grove and Finchley Road	69.3	37.8	20.8
(3-45) Property at the southern corner of the junction of Finchley Road and Hendon Way	52.1	29.9	19.1
(3-46) Property at the southern corner of the junction of Boundary Road and St John's Wood Park	69.3	37.8	20.8
(3-47) Property near the junction of Layfield Road and Dallas Road	67.3	36.4	21.9
(3-48) Property near the junction of Tilling Road and Claremont Road	67.1	36.5	22.0
(3-50) 16a Finchley Road	69.3	37.8	20.8
(3-51) 14 Finchley Road	69.3	37.8	20.8
(3-52) Balmoral Court, 20 Queens Terrace	69.3	37.8	20.8
(3-53) 1 Finchley Road	69.3	37.8	20.8
(3-54) Birley Lodge, 63 Acacia Road	69.3	37.8	20.8
(3-55) 68 Queens Grove	69.3	37.8	20.8
(3-56) 56 The Marlowes	69.3	37.8	20.8
(3-57) 8 The Marlowes	69.3	37.8	20.8
(3-58) 16 The Marlowes	69.3	37.8	20.8
(3-59) 38 The Marlowes	69.3	37.8	20.8
(3-60) Jevons House, Alexandra Road	72.5	39.0	21.2
(3-61) 1 Court Close, St. Johns Wood Park	72.5	39.0	21.2
(3-62) 1 Court Close, St. Johns Wood Park	72.5	39.0	21.2
(3-63) 115 Finchley Road	72.5	39.0	21.2
(3-64) Northways, College Crescent	72.5	39.0	21.2

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-65) Swiss Cottage Post Office	72.5	39.0	21.2
(3-66) 17-18 New College Parade	72.5	39.0	21.2
(3-67) 6 Fairfax Mansions, Finchley Road	72.5	39.0	21.2
(3-68) 219c Finchley Road	72.5	39.0	21.2
(3-69) 219c Finchley Road	72.5	39.0	21.2
(3-70) 3 Sumpter Close	72.5	39.0	21.2
(3-71) 150a Finchley Road	72.5	39.0	21.2
(3-72) 132 Finchley Road	72.5	39.0	21.2
(3-73) Midland Court, Finchley Road	72.5	39.0	21.2
(3-74) 291 Finchley Road	72.5	39.0	21.2
(3-75) 166a Finchley Road	72.5	39.0	21.2
(3-76) Arkwright Mansions, Finchley Road	57.7	33.0	19.6
(3-77) 333-339 Finchley Road	57.7	33.0	19.6
(3-78) Hatstone Court, 335 Finchley Road	57.7	33.0	19.6
(3-79) 192 Finchley Road	57.7	33.0	19.6
(3-80) Langland Mansions, 228 Finchley Road	56.9	32.7	20.0
(3-81) Dunrobin Court, 389 Finchley Road	56.9	32.7	20.0
(3-82) Alvanley Court, Finchley Road	56.9	32.7	20.0
(3-83) 463a Finchley Road	56.9	32.7	20.0
(3-84) Unit 5-6, Palace Court, 250 Finchley Road	56.9	32.7	20.0
(3-85) St. Andrews Church Hall, Frogna Lane	56.9	32.7	20.0
(3-86) Avenue Mansions, Finchley Road	56.9	32.7	20.0
(3-87) Avenue Mansions, Finchley Road	56.9	32.7	20.0
(3-88) Avenue Mansions, Finchley Road	56.9	32.7	20.0
(3-89) 38 Heath Drive	56.9	32.7	20.0
(3-90) 529a Finchley Road	56.9	32.7	20.0
(3-91) Apartment 4, Westfield Lodge, 302 Finchley Road	56.9	32.7	20.0
(3-92) 553 Finchley Road	56.9	32.7	20.0
(3-93) 326 Finchley Road	56.9	32.7	20.0
(3-94) 348 Finchley Road	56.9	32.7	20.0
(3-95) 589a-589b Finchley Road	56.9	32.7	20.0

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-96) 364 Finchley Road	52.1	29.9	19.1
(3-97) 360 Finchley Road	52.1	29.9	19.1
(3-98) Vernon Court, Hendon Way	55.2	31.3	20.0
(3-99) Greenbanks, Lyndale	55.2	31.3	20.0
(3-100) Hi-Lo, Hocroft Walk, Hendon Way	55.2	31.3	20.0
(3-101) 24 Hocroft Avenue	55.2	31.3	20.0
(3-102) 56 Hendon Way	55.2	31.3	20.0
(3-103) 49 Hendon Way	55.2	31.3	20.0
(3-104) 90 Hendon Way	55.2	31.3	20.0
(3-105) 47 Heath Street	57.7	33.0	19.6
(3-106) 51-53 Heath Street	57.7	33.0	19.6
(3-107) 19 Heath Street	57.7	33.0	19.6
(3-108) 16-18 Heath Street	57.7	33.0	19.6
(3-109) 28 Church Row	57.7	33.0	19.6
(3-110) 57 Hampstead High Street	57.7	33.0	19.6
(3-111) 44 Heath Street	57.7	33.0	19.6
(3-112) 42 Hampstead High Street	57.7	33.0	19.6
(3-113) 64 Hampstead High Street	57.7	33.0	19.6
(3-114) 19 Hampstead High Street	57.7	33.0	19.6
(3-115) 80 Rosslyn Hill	57.7	33.0	19.6
(3-116) 1 Mulberry Close	57.7	33.0	19.6
(3-117) 40a Rosslyn Hill	57.7	33.0	19.6
(3-118) 53 Rosslyn Hill	57.7	33.0	19.6
(3-119) 20 Rosslyn Hill	57.7	33.0	19.6
(3-120) 23 Rosslyn Hill	57.7	33.0	19.6
(3-121) 13 Rosslyn Hill	57.7	33.0	19.6
(3-122) 6 Rosslyn Hill	58.8	33.3	19.4
(3-123) 12a Rosslyn Hill	57.7	33.0	19.6
(3-124) 1 Pond Street	58.8	33.3	19.4
(3-125) 5c Pond Street	58.8	33.3	19.4
(3-126) 9b Rosslyn Hill	58.8	33.3	19.4
(3-127) 7 Rosslyn Hill	58.8	33.3	19.4

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-128) 242 Haverstock Hill	58.8	33.3	19.4
(3-129) 5 Englands Lane	61.9	34.7	19.9
(3-130) Flat A, 2 Primrose Gardens	61.9	34.7	19.9
(3-131) 57 Englands Lane	61.9	34.7	19.9
(3-132) 62d Haverstock Hill	61.9	34.7	19.9
(3-133) 83a-85a Haverstock Hill	61.9	34.7	19.9
(3-134) 92 Haverstock Hill	61.9	34.7	19.9
(3-135) 18b-18f Haverstock Hill	67.2	36.8	20.9
(3-136) 24 Haverstock Hill	67.2	36.8	20.9
(3-137) Farjeon House, Hilgrove Road	72.5	39.0	21.2
(3-138) 23 East Heath Road	46.0	27.7	18.1
(3-139) 154-156 Fleet Road	58.8	33.3	19.4
(3-140) 1 Golders Green Road	51.3	29.7	19.2
(3-141) 40 Brent Park Road	67.3	36.4	21.9
(3-142) 169 Cricklewood Lane	55.2	31.3	20.0
(3-143) 75 Fitzjohns Avenue	57.7	33.0	19.6
(3-144) 98 Finchley Road	72.5	39.0	21.2
(3-145) Northways, College Crescent	72.5	39.0	21.2
(3-146) Warwick Mansions, Pond Street	58.8	33.3	19.4
(3-147) 5 Prince Albert Road	67.5	37.1	21.0
(3-148) Pallester Court, Wayside	55.6	31.5	19.9
(3-149) 219c Finchley Road	72.5	39.0	21.2
(3-150) 136 Brent Park Road	67.3	36.4	21.9
(3-151) 36 Chalk Farm Road	67.2	36.8	20.9
(3-152) 155a Regents Park Road	67.2	36.8	20.9
(3-153) 2 Fleet Road	58.8	33.3	19.4
(3-154) Heath House, North End Way	46.0	27.7	18.1
(3-155) 9d Rosslyn Hill	58.8	33.3	19.4
(3-156) 6 Albert Terrace	67.5	37.1	21.0
(3-157) 71 Avenue Road	69.3	37.8	20.8
(3-158) 57 Hampstead High Street	57.7	33.0	19.6
(3-159) Ludham, Lismore Circus	58.8	33.3	19.4

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-160) 1 Gloucester Avenue	67.5	37.1	21.0
(3-161) 82 Highfield Avenue	67.1	36.5	22.0
(3-162) Arkwright Mansions, Finchley Road	57.7	33.0	19.6
(3-163) 2 The Marlowes	69.3	37.8	20.8
(3-164) 465a Finchley Road	56.9	32.7	20.0
(3-165) 44 Heath Street	57.7	33.0	19.6
(3-166) 50a Hampstead Lane	44.8	26.7	17.8
(3-167) 2 Rosslyn Hill	58.8	33.3	19.4
(3-168) 284 Cricklewood Lane	55.2	31.3	20.0
(3-169) Rackstraw House, 40 Primrose Hill Road	61.9	34.7	19.9
(3-170) Sheridan Court, 47 Belsize Road	72.5	39.0	21.2
(3-171) 65 Quickswood	61.9	34.7	19.9
(3-172) 1 Brent Cross Gardens	67.1	36.5	22.0
(3-173) Regency Lodge, Adelaide Road	72.5	39.0	21.2
(3-174) 11 Eton Avenue	61.9	34.7	19.9
(3-175) Taplow, Adelaide Road	72.5	39.0	21.2
(3-176) 48 Chalk Farm Road	67.2	36.8	20.9
(3-177) Stanbury Court, 99 Haverstock Hill	61.9	34.7	19.9
(3-178) Savoy Court, Firecrest Drive	46.0	27.7	18.1
(3-179) Apsley House, 23-29 Finchley Road	69.3	37.8	20.8
(3-180) 68 Queens Grove	69.3	37.8	20.8
(3-181) 617 Finchley Road	52.1	29.9	19.1
(3-182) 8 St. Johns Wood Park	69.3	37.8	20.8
(3-183) 101 Dallas Road	67.3	36.4	21.9
(3-184) Dyson Court, Whitefield Avenue	67.1	36.5	22.0

Table 11: Background 2017 concentrations at assessed receptors

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-1) Property at the northern corner of the junction of Finchley Road and Hilgrove Road	59.7	33.5	20.0
(3-2) Property opposite the junction of Whitestone Lane and East Heath Road	36.8	23.1	17.1
(3-3) Property at the junction of Fleet Road	48.4	28.6	18.3

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
and Constantine Road (White Horse public house)			
(3-4) Property at the southern junction of Golders Green Road and Finchley Road	40.7	24.8	18.1
(3-5) Property on Brent Park Road, nearest to M1.	52.3	30.1	20.5
(3-6) Property at the northern corner of Cricklewood Lane and Hendon Way	43.8	26.2	18.9
(3-7) Property at the southern corner of Fitzjohn's Avenue and Arkwright Road	46.6	27.8	18.5
(3-8) Property at the junction of Avenue Road and Finchley Road	59.7	33.5	20.0
(3-9) Property at the junction of Finchley Road and College Crescent	59.7	33.5	20.0
(3-10) Property at the junction of South End Road and Pond Street	48.4	28.6	18.3
(3-11) Property on Prince Albert Road, near Regal Lane	54.3	31.3	19.8
(3-12) Property at the junction of Wayside and Hendon Way	43.9	26.3	18.8
(3-13) Property at the junction of Canfield Gardens and Finchley Road, near Finchley Road Underground Station	59.7	33.5	20.0
(3-14) Property on Brent Park Road, near Brent Cross Shopping Centre	52.3	30.1	20.5
(3-15) Property at the western corner of Chalk Farm Road and Harmond Street	54.6	31.4	19.7
(3-16) Property at the junction of Haverstock Hill and Regent's Park Road	54.6	31.4	19.7
(3-17) Property on the junction of Agincourt Road and Fleet Road	48.4	28.6	18.3
(3-18) Property on the junction of Spaniards Road and North End Way	36.8	23.1	17.1
(3-19) Property at the southern corner of the junction of Rosslyn Hill and Lyndhurst Road	48.4	28.6	18.3
(3-20) Property at the junction of Regents Park Road and Albert Terrace	54.3	31.3	19.8
(3-21) Property at the southern corner of the junction of Avenue Road and Queen's Grove	56.2	32.1	19.6
(3-22) Bus stop opposite the junction of Edgware Road and Brent Park Road	52.3	30.1	20.5

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-23) Property opposite the junction of Southampton Road and Dunboyne Road	48.4	28.6	18.3
(3-24) Site on Primrose Hill, near Prince Albert Road	54.3	31.3	19.8
(3-25) Property at the eastern junction of Brentfield Gardens and Highfield Avenue	51.8	30.0	20.5
(3-26) Property at the southern junction of Arkwright Road and Finchley Road	46.6	27.8	18.5
(3-27) Property at the eastern corner of the junction of Boundary Road and Finchley Road	56.2	32.1	19.6
(3-28) Property at the northern corner of the junction of West End Lane and Finchley Road	45.7	27.5	18.8
(3-29) Property at the southern corner of the junction of Heath Street and Hampstead High Street	46.6	27.8	18.5
(3-30) Property at the junction of Hampstead Lane and The Bishops Avenue	35.8	22.3	16.8
(3-31) Property at the northern corner of the junction of Pond Street and Rosslyn Hill	48.4	28.6	18.3
(3-32) Property at the eastern corner of the junction of Hendon Way and Cricklewood Lane	43.8	26.2	18.9
(3-33) Property at the northern corner of the junction of Adelaide Road and Primrose Hill Road	50.5	29.6	18.8
(3-34) Property at the junction of Hilgrove Road and Belsize Road	59.7	33.5	20.0
(3-35) Property at the southern corner of the junction of Adelaide Road and Primrose Hill Road, near Quickwood	50.5	29.6	18.8
(3-36) Property at the northern corner of the junction of North Circular Road and Brent Cross Flyover	51.8	30.0	20.5
(3-37) Property at the junction of Adelaide Road and Avenue Road	59.7	33.5	20.0
(3-38) Property on Eton Avenue, opposite the junction of Eton Avenue and Lancaster Grove	50.5	29.6	18.8
(3-39) Property at the junction of Adelaide Road and Winchester Road	59.7	33.5	20.0
(3-40) Property at the northern corner of the junction of Chalk Farm Road and Ferdinand Street	54.6	31.4	19.7
(3-41) Property at the southern corner of the	50.5	29.6	18.8

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
junction of Englands Lane and Haverstock Hill			
(3-42) Property at the junction of Mansion Gardens and Branch Hill	36.8	23.1	17.1
(3-43) Property at the junction of Finchley Road and Marlborough Place	56.2	32.1	19.6
(3-44) Property at the junction of Queen's Grove and Finchley Road	56.2	32.1	19.6
(3-45) Property at the southern corner of the junction of Finchley Road and Hendon Way	41.7	25.2	18.0
(3-46) Property at the southern corner of the junction of Boundary Road and St John's Wood Park	56.2	32.1	19.6
(3-47) Property near the junction of Layfield Road and Dallas Road	52.3	30.1	20.5
(3-48) Property near the junction of Tilling Road and Claremont Road	51.8	30.0	20.5
(3-50) 16a Finchley Road	56.2	32.1	19.6
(3-51) 14 Finchley Road	56.2	32.1	19.6
(3-52) Balmoral Court, 20 Queens Terrace	56.2	32.1	19.6
(3-53) 1 Finchley Road	56.2	32.1	19.6
(3-54) Birley Lodge, 63 Acacia Road	56.2	32.1	19.6
(3-55) 68 Queens Grove	56.2	32.1	19.6
(3-56) 56 The Marlowes	56.2	32.1	19.6
(3-57) 8 The Marlowes	56.2	32.1	19.6
(3-58) 16 The Marlowes	56.2	32.1	19.6
(3-59) 38 The Marlowes	56.2	32.1	19.6
(3-60) Jevons House, Alexandra Road	59.7	33.5	20.0
(3-61) 1 Court Close, St. Johns Wood Park	59.7	33.5	20.0
(3-62) 1 Court Close, St. Johns Wood Park	59.7	33.5	20.0
(3-63) 115 Finchley Road	59.7	33.5	20.0
(3-64) Northways, College Crescent	59.7	33.5	20.0
(3-65) Swiss Cottage Post Office	59.7	33.5	20.0
(3-66) 17-18 New College Parade	59.7	33.5	20.0
(3-67) 6 Fairfax Mansions, Finchley Road	59.7	33.5	20.0
(3-68) 219c Finchley Road	59.7	33.5	20.0
(3-69) 219c Finchley Road	59.7	33.5	20.0

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-70) 3 Sumpter Close	59.7	33.5	20.0
(3-71) 150a Finchley Road	59.7	33.5	20.0
(3-72) 132 Finchley Road	59.7	33.5	20.0
(3-73) Midland Court, Finchley Road	59.7	33.5	20.0
(3-74) 291 Finchley Road	59.7	33.5	20.0
(3-75) 166a Finchley Road	59.7	33.5	20.0
(3-76) Arkwright Mansions, Finchley Road	46.6	27.8	18.5
(3-77) 333-339 Finchley Road	46.6	27.8	18.5
(3-78) Hatstone Court, 335 Finchley Road	46.6	27.8	18.5
(3-79) 192 Finchley Road	46.6	27.8	18.5
(3-80) Langland Mansions, 228 Finchley Road	45.7	27.5	18.8
(3-81) Dunrobin Court, 389 Finchley Road	45.7	27.5	18.8
(3-82) Alvanley Court, Finchley Road	45.7	27.5	18.8
(3-83) 463a Finchley Road	45.7	27.5	18.8
(3-84) Unit 5-6, Palace Court, 250 Finchley Road	45.7	27.5	18.8
(3-85) St. Andrews Church Hall, Frogna Lane	45.7	27.5	18.8
(3-86) Avenue Mansions, Finchley Road	45.7	27.5	18.8
(3-87) Avenue Mansions, Finchley Road	45.7	27.5	18.8
(3-88) Avenue Mansions, Finchley Road	45.7	27.5	18.8
(3-89) 38 Heath Drive	45.7	27.5	18.8
(3-90) 529a Finchley Road	45.7	27.5	18.8
(3-91) Apartment 4, Westfield Lodge, 302 Finchley Road	45.7	27.5	18.8
(3-92) 553 Finchley Road	45.7	27.5	18.8
(3-93) 326 Finchley Road	45.7	27.5	18.8
(3-94) 348 Finchley Road	45.7	27.5	18.8
(3-95) 589a-589b Finchley Road	45.7	27.5	18.8
(3-96) 364 Finchley Road	41.7	25.2	18.0
(3-97) 360 Finchley Road	41.7	25.2	18.0
(3-98) Vernon Court, Hendon Way	43.8	26.2	18.9
(3-99) Greenbanks, Lyndale	43.8	26.2	18.9
(3-100) Hi-Lo, Hocroft Walk, Hendon Way	43.8	26.2	18.9

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-101) 24 Hocroft Avenue	43.8	26.2	18.9
(3-102) 56 Hendon Way	43.8	26.2	18.9
(3-103) 49 Hendon Way	43.8	26.2	18.9
(3-104) 90 Hendon Way	43.8	26.2	18.9
(3-105) 47 Heath Street	46.6	27.8	18.5
(3-106) 51-53 Heath Street	46.6	27.8	18.5
(3-107) 19 Heath Street	46.6	27.8	18.5
(3-108) 16-18 Heath Street	46.6	27.8	18.5
(3-109) 28 Church Row	46.6	27.8	18.5
(3-110) 57 Hampstead High Street	46.6	27.8	18.5
(3-111) 44 Heath Street	46.6	27.8	18.5
(3-112) 42 Hampstead High Street	46.6	27.8	18.5
(3-113) 64 Hampstead High Street	46.6	27.8	18.5
(3-114) 19 Hampstead High Street	46.6	27.8	18.5
(3-115) 80 Rosslyn Hill	46.6	27.8	18.5
(3-116) 1 Mulberry Close	46.6	27.8	18.5
(3-117) 40a Rosslyn Hill	46.6	27.8	18.5
(3-118) 53 Rosslyn Hill	46.6	27.8	18.5
(3-119) 20 Rosslyn Hill	46.6	27.8	18.5
(3-120) 23 Rosslyn Hill	46.6	27.8	18.5
(3-121) 13 Rosslyn Hill	46.6	27.8	18.5
(3-122) 6 Rosslyn Hill	48.4	28.6	18.3
(3-123) 12a Rosslyn Hill	46.6	27.8	18.5
(3-124) 1 Pond Street	48.4	28.6	18.3
(3-125) 5c Pond Street	48.4	28.6	18.3
(3-126) 9b Rosslyn Hill	48.4	28.6	18.3
(3-127) 7 Rosslyn Hill	48.4	28.6	18.3
(3-128) 242 Haverstock Hill	48.4	28.6	18.3
(3-129) 5 Englands Lane	50.5	29.6	18.8
(3-130) Flat A, 2 Primrose Gardens	50.5	29.6	18.8
(3-131) 57 Englands Lane	50.5	29.6	18.8
(3-132) 62d Haverstock Hill	50.5	29.6	18.8

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NOx	NO ₂	PM ₁₀
(3-133) 83a-85a Haverstock Hill	50.5	29.6	18.8
(3-134) 92 Haverstock Hill	50.5	29.6	18.8
(3-135) 18b-18f Haverstock Hill	54.6	31.4	19.7
(3-136) 24 Haverstock Hill	54.6	31.4	19.7
(3-137) Farjeon House, Hilgrove Road	59.7	33.5	20.0
(3-138) 23 East Heath Road	36.8	23.1	17.1
(3-139) 154-156 Fleet Road	48.4	28.6	18.3
(3-140) 1 Golders Green Road	40.7	24.8	18.1
(3-141) 40 Brent Park Road	52.3	30.1	20.5
(3-142) 169 Cricklewood Lane	43.8	26.2	18.9
(3-143) 75 Fitzjohns Avenue	46.6	27.8	18.5
(3-144) 98 Finchley Road	59.7	33.5	20.0
(3-145) Northways, College Crescent	59.7	33.5	20.0
(3-146) Warwick Mansions, Pond Street	48.4	28.6	18.3
(3-147) 5 Prince Albert Road	54.3	31.3	19.8
(3-148) Pallester Court, Wayside	43.9	26.3	18.8
(3-149) 219c Finchley Road	59.7	33.5	20.0
(3-150) 136 Brent Park Road	52.3	30.1	20.5
(3-151) 36 Chalk Farm Road	54.6	31.4	19.7
(3-152) 155a Regents Park Road	54.6	31.4	19.7
(3-153) 2 Fleet Road	48.4	28.6	18.3
(3-154) Heath House, North End Way	36.8	23.1	17.1
(3-155) 9d Rosslyn Hill	48.4	28.6	18.3
(3-156) 6 Albert Terrace	54.3	31.3	19.8
(3-157) 71 Avenue Road	56.2	32.1	19.6
(3-158) 57 Hampstead High Street	46.6	27.8	18.5
(3-159) Ludham, Lismore Circus	48.4	28.6	18.3
(3-160) 1 Gloucester Avenue	54.3	31.3	19.8
(3-161) 82 Highfield Avenue	51.8	30.0	20.5
(3-162) Arkwright Mansions, Finchley Road	46.6	27.8	18.5
(3-163) 2 The Marlowes	56.2	32.1	19.6
(3-164) 465a Finchley Road	45.7	27.5	18.8

Receptor	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NO _x	NO ₂	PM ₁₀
(3-165) 44 Heath Street	46.6	27.8	18.5
(3-166) 50a Hampstead Lane	35.8	22.3	16.8
(3-167) 2 Rosslyn Hill	48.4	28.6	18.3
(3-168) 284 Cricklewood Lane	43.8	26.2	18.9
(3-169) Rackstraw House, 40 Primrose Hill Road	50.5	29.6	18.8
(3-170) Sheridan Court, 47 Belsize Road	59.7	33.5	20.0
(3-171) 65 Quickswood	50.5	29.6	18.8
(3-172) 1 Brent Cross Gardens	51.8	30.0	20.5
(3-173) Regency Lodge, Adelaide Road	59.7	33.5	20.0
(3-174) 11 Eton Avenue	50.5	29.6	18.8
(3-175) Taplow, Adelaide Road	59.7	33.5	20.0
(3-176) 48 Chalk Farm Road	54.6	31.4	19.7
(3-177) Stanbury Court, 99 Haverstock Hill	50.5	29.6	18.8
(3-178) Savoy Court, Firecrest Drive	36.8	23.1	17.1
(3-179) Apsley House, 23-29 Finchley Road	56.2	32.1	19.6
(3-180) 68 Queens Grove	56.2	32.1	19.6
(3-181) 617 Finchley Road	41.7	25.2	18.0
(3-182) 8 St. Johns Wood Park	56.2	32.1	19.6
(3-183) 101 Dallas Road	52.3	30.1	20.5
(3-184) Dyson Court, Whitefield Avenue	51.8	30.0	20.5

Table 12: Background nitrogen deposition at ecological receptors

Designated site	APIS habitat classification	Total background nitrogen (N) deposition (kg N /ha /year)	Critical load range (kg N/ha /year)
Hampstead Heath Woods	Broadleaved, mixed and yew woodland (bog potentially)	36.3	10-20

Design Manual for Roads and Bridges model results

- 5.3.6 This section provides the summary of the modelled pollutant concentrations for the assessed receptors. The magnitude of change and impact descriptor are also derived following the Environmental Protection UK (EPUK) methodology³². Results presented correspond to the greatest impact at each receptor from the construction traffic scenarios assessed.

Table 13: Summary of DMRB annual mean NO₂ results (construction phase)

Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-1	62.6	53.4	54.5	1.1	Small	Slight adverse
3-2	41.2	34.0	34.9	0.9	Small	Negligible
3-3	46.0	38.6	40.0	1.4	Small	Slight adverse
3-4	55.6	46.0	46.3	0.4	Imperceptible	Negligible
3-5	43.0	35.4	35.5	0.1	Imperceptible	Negligible
3-6	54.8	45.0	45.9	0.9	Small	Slight adverse
3-7	42.5	35.4	36.7	1.3	Small	Slight adverse
3-8	71.3	60.9	62.4	1.5	Small	Slight adverse
3-9	75.8	65.0	66.4	1.4	Small	Slight adverse
3-10	39.9	33.6	34.8	1.2	Small	Negligible
3-11	46.1	39.0	39.0	0.1	Imperceptible	Negligible
3-12	41.1	34.4	34.9	0.6	Small	Negligible
3-13	41.5	55.1	57.0	1.8	Small	Slight adverse
3-14	32.6	27.4	27.4	0.0	Imperceptible	Negligible

³² Environmental Protection UK (EPUK), (2010), *Development Control: Planning for Air Quality*

Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-15	57.6	47.7	48.7	0.9	Small	Slight adverse
3-16	60.5	49.3	50.7	1.3	Small	Slight adverse
3-17	51.8	43.4	44.2	0.8	Small	Slight adverse
3-18	39.1	32.4	33.3	0.9	Small	Negligible
3-19	39.7	33.1	34.1	1.0	Small	Negligible
3-20	43.7	37.3	37.9	0.6	Small	Slight adverse
3-21	41.7	37.3	37.5	0.3	Imperceptible	Negligible
3-22	51.5	43.3	47.4	4.0	Large	Substantial adverse
3-23	37.1	31.2	31.2	0.0	Imperceptible	Negligible
3-24	52.9	45.9	46.5	0.6	Small	Slight adverse
3-25	37.0	31.7	32.8	1.1	Small	Negligible
3-26	57.6	48.7	50.4	1.7	Small	Slight adverse
3-27	54.7	45.3	47.7	2.4	Medium	Moderate adverse
3-28	50.6	41.3	43.1	1.8	Small	Slight adverse
3-29	53.8	45.4	49.3	4.0	Medium	Moderate adverse
3-30	37.5	31.2	32.2	1.0	Small	Negligible
3-31	43.5	36.5	39.2	2.7	Medium	Moderate adverse
3-32	53.7	44.6	46.2	1.6	Small	Slight adverse
3-33	47.4	39.5	40.0	0.4	Small	Slight adverse
3-34	46.5	39.7	39.8	0.1	Imperceptible	Negligible

Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-35	51.7	44.8	44.7	0.0	Imperceptible	Negligible
3-36	34.8	29.4	29.9	0.5	Small	Negligible
3-37	77.4	66.9	68.5	1.6	Small	Slight adverse
3-38	33.3	28.5	28.7	0.2	Imperceptible	Negligible
3-39	42.9	37.1	37.2	0.2	Imperceptible	Negligible
3-40	59.1	48.2	49.0	0.8	Small	Slight adverse
3-41	43.8	36.9	44.3	7.5	Large	Substantial adverse
3-42	34.6	31.5	32.4	0.9	Small	Negligible
3-43	48.9	40.7	42.7	1.9	Small	Slight adverse
3-44	56.8	47.3	49.9	2.6	Medium	Moderate adverse
3-45	65.3	54.6	57.0	2.5	Medium	Moderate adverse
3-46	41.8	34.7	35.7	1.0	Small	Negligible
3-47	38.8	34.3	34.4	0.1	Imperceptible	Negligible
3-48	39.0	31.8	32.7	0.9	Small	Negligible

5.3.7 Additional receptors identified from the DMRB queuing sensitivity analysis assessment as moderate or substantial adverse, which were not identified as such in the main DMRB assessment, are shown in Table 14.

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Table 14: Summary of DMRB annual mean NO₂ results for queuing sensitivity analysis not identified by DMRB assessment (construction phase)

Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-6	-	62.0	64.5	2.5	Medium	Moderate adverse
3-8	-	70.9	73.2	2.3	Medium	Moderate adverse
3-9	-	78.8	81.2	2.4	Medium	Moderate adverse
3-13	-	66.8	69.9	3.0	Medium	Moderate adverse
3-26	-	59.4	62.2	2.8	Medium	Moderate adverse
3-28	-	50.7	54.1	3.4	Medium	Moderate adverse
3-32	-	57.0	60.3	3.3	Medium	Moderate adverse
3-37	-	78.9	81.2	2.4	Medium	Moderate adverse
3-43	-	48.0	51.2	3.2	Medium	Moderate adverse

Table 15: Summary of DMRB annual mean PM₁₀ results (construction phase)

Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-1	25.2	23.6	23.7	0.1	Imperceptible	Negligible
3-2	20.3	19.1	19.1	0.0	Imperceptible	Negligible
3-3	21.0	19.7	19.7	0.0	Imperceptible	Negligible
3-4	24.5	22.9	22.9	0.0	Imperceptible	Negligible
3-5	23.0	21.3	21.4	0.0	Imperceptible	Negligible
3-6	25.2	23.8	23.9	0.1	Imperceptible	Negligible

Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-7	21.2	20.0	20.0	0.0	Imperceptible	Negligible
3-8	26.9	25.1	25.2	0.1	Imperceptible	Negligible
3-9	28.3	26.3	26.5	0.1	Imperceptible	Negligible
3-10	20.2	19.1	19.1	0.0	Imperceptible	Negligible
3-11	22.5	21.2	21.2	0.0	Imperceptible	Negligible
3-12	22.1	20.9	21.0	0.0	Imperceptible	Negligible
3-13	21.7	24.3	24.5	0.1	Imperceptible	Negligible
3-14	21.7	20.6	20.6	0.0	Imperceptible	Negligible
3-15	23.8	22.2	22.3	0.1	Imperceptible	Negligible
3-16	25.0	23.2	23.3	0.1	Imperceptible	Negligible
3-17	22.2	20.7	20.7	0.0	Imperceptible	Negligible
3-18	20.2	19.1	19.1	0.0	Imperceptible	Negligible
3-19	20.2	19.1	19.1	0.0	Imperceptible	Negligible
3-20	22.0	20.8	20.8	0.0	Imperceptible	Negligible
3-21	21.5	20.8	20.8	0.0	Imperceptible	Negligible
3-22	22.6	21.1	21.1	0.0	Imperceptible	Negligible
3-23	20.1	19.0	19.0	0.0	Imperceptible	Negligible
3-24	24.1	22.4	22.5	0.1	Imperceptible	Negligible
3-25	22.6	21.6	21.6	0.0	Imperceptible	Negligible
3-26	24.1	22.5	22.7	0.1	Imperceptible	Negligible

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Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-27	23.6	22.1	22.3	0.1	Imperceptible	Negligible
3-28	23.0	21.7	21.8	0.1	Imperceptible	Negligible
3-29	22.8	21.3	21.3	0.0	Imperceptible	Negligible
3-30	19.5	18.3	18.3	0.0	Imperceptible	Negligible
3-31	20.9	19.6	19.6	0.0	Imperceptible	Negligible
3-32	24.2	22.8	22.9	0.1	Imperceptible	Negligible
3-33	21.9	20.5	20.5	0.0	Imperceptible	Negligible
3-34	22.5	21.2	21.2	0.0	Imperceptible	Negligible
3-35	22.6	21.3	21.3	0.0	Imperceptible	Negligible
3-36	22.4	21.2	21.2	0.0	Imperceptible	Negligible
3-37	28.3	26.3	26.5	0.1	Imperceptible	Negligible
3-38	19.9	18.8	18.8	0.0	Imperceptible	Negligible
3-39	22.1	21.0	21.0	0.0	Imperceptible	Negligible
3-40	23.8	22.1	22.1	0.0	Imperceptible	Negligible
3-41	21.4	20.1	20.1	0.0	Imperceptible	Negligible
3-42	19.4	18.5	18.5	0.0	Imperceptible	Negligible
3-43	22.4	21.1	21.2	0.1	Imperceptible	Negligible
3-44	23.7	22.2	22.3	0.1	Imperceptible	Negligible
3-45	26.2	24.1	24.3	0.2	Imperceptible	Negligible
3-46	21.6	20.2	20.2	0.0	Imperceptible	Negligible

Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-47	22.3	21.2	21.2	0.0	Imperceptible	Negligible
3-48	22.5	21.2	21.3	0.0	Imperceptible	Negligible

Ecological receptor results

- 5.3.8 Table 16 shows changes in nitrogen deposition arising from changes in traffic as a result of the Proposed Scheme. Results presented correspond to the greatest impact at each receptor from the construction traffic scenarios assessed.

Table 16: Summary of DMRB results for nitrogen deposition at designated sites

Designated site	Distance to road (m)	N deposition 2017 without Proposed Scheme (kg N/ha/year)	Maximum N deposition 2017 with Proposed Scheme (kg N/ha/year)	Change in N deposition 2017 (kg N/ha/year)	Percentage change	Change as percentage of lowest critical load
Hampstead Heath Woods	7	32.4	32.5	0.106	0.327	1.060
	20	32.1	32.2	0.069	0.215	0.690
	50	32.0	32.1	0.050	0.156	0.500
	100	31.8	31.8	0.011	0.035	0.110
	140	31.8	31.8	0.009	0.028	0.090

Detailed modelling results

- 5.3.9 This section provides the summary of the modelled pollutant concentrations for the assessed receptors. The magnitude of change and impact descriptor are also derived following the Environmental Protection UK (EPUK) methodology³². Results presented correspond to the greatest impact at each receptor from the construction traffic scenarios assessed.

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Table 17: Summary of ADMS-Roads annual mean NO₂ results (construction phase)

Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-2	34.8	28.6	28.6	0.1	Imperceptible	Negligible
3-3	41.0	34.5	34.6	0.2	Imperceptible	Negligible
3-5	43.5	35.4	35.4	0.0	Imperceptible	Negligible
3-6	58.8	48.0	48.9	0.9	Small	Slight adverse
3-7	41.2	34.2	34.4	0.2	Imperceptible	Negligible
3-8	74.7	63.3	64.6	1.3	Small	Slight adverse
3-9	69.4	58.7	59.7	1.0	Small	Slight adverse
3-13	61.0	51.5	52.5	1.0	Small	Slight adverse
3-16	51.6	42.6	43.0	0.4	Imperceptible	Negligible
3-21	46.6	38.9	39.1	0.2	Imperceptible	Negligible
3-26	66.6	55.9	57.6	1.7	Small	Slight adverse
3-28	57.2	46.7	48.0	1.4	Small	Slight adverse
3-30	33.7	27.6	27.7	0.0	Imperceptible	Negligible
3-32	61.7	50.7	52.1	1.4	Small	Slight adverse
3-37	81.8	70.1	71.6	1.5	Small	Slight adverse
3-40	44.1	37.0	37.0	0.0	Imperceptible	Negligible
3-41	52.8	43.7	48.5	4.8	Large	Substantial adverse
3-42	34.8	28.5	28.6	0.0	Imperceptible	Negligible
3-43	55.3	45.8	47.1	1.3	Small	Slight adverse

Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-50	60.5	50.0	52.0	2.0	Small	Slight adverse
3-51	60.3	49.9	51.9	2.0	Small	Slight adverse
3-52	59.8	49.4	51.4	2.0	Small	Slight adverse
3-53	56.9	47.1	48.7	1.7	Small	Slight adverse
3-54	65.7	54.7	57.6	2.9	Medium	Moderate adverse
3-55	51.8	43.0	43.9	0.9	Small	Slight adverse
3-56	61.1	50.6	52.6	2.0	Small	Slight adverse
3-57	62.5	51.8	53.8	2.0	Medium	Moderate adverse
3-58	62.0	51.4	53.4	2.0	Small	Slight adverse
3-59	61.6	51.0	53.0	2.0	Medium	Moderate adverse
3-60	67.1	56.5	57.5	1.0	Small	Slight adverse
3-61	87.4	74.6	76.6	2.0	Small	Slight adverse
3-62	71.1	60.3	61.6	1.3	Small	Slight adverse
3-63	65.7	55.5	56.4	1.0	Small	Slight adverse
3-64	73.7	62.4	63.9	1.6	Small	Slight adverse
3-65	65.8	55.2	56.1	0.9	Small	Slight adverse
3-66	70.2	58.7	59.9	1.2	Small	Slight adverse
3-67	64.5	54.0	54.9	0.9	Small	Slight adverse
3-68	61.0	51.5	52.5	1.0	Small	Slight adverse
3-69	66.1	56.0	57.4	1.4	Small	Slight adverse

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Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-70	72.2	61.3	63.1	1.7	Small	Slight adverse
3-71	74.6	63.6	65.6	2.0	Small	Slight adverse
3-72	73.4	62.5	64.4	1.9	Small	Slight adverse
3-73	71.9	61.2	63.0	1.8	Small	Slight adverse
3-74	65.2	55.2	56.6	1.4	Small	Slight adverse
3-75	71.9	61.2	63.0	1.8	Small	Slight adverse
3-76	64.4	53.9	55.6	1.7	Small	Slight adverse
3-77	61.9	51.3	52.7	1.5	Small	Slight adverse
3-78	65.3	54.8	56.5	1.8	Small	Slight adverse
3-79	65.6	55.0	56.8	1.8	Small	Slight adverse
3-80	60.6	49.6	51.1	1.4	Small	Slight adverse
3-81	56.1	45.9	47.1	1.2	Small	Slight adverse
3-82	61.6	50.4	51.9	1.5	Small	Slight adverse
3-83	62.5	51.4	53.0	1.7	Small	Slight adverse
3-84	69.0	57.0	58.9	1.9	Small	Slight adverse
3-85	64.6	53.0	54.9	1.9	Small	Slight adverse
3-86	53.7	43.8	45.0	1.2	Small	Slight adverse
3-87	57.9	47.2	48.3	1.1	Small	Slight adverse
3-88	55.6	45.3	46.4	1.1	Small	Slight adverse
3-89	53.3	43.5	44.6	1.1	Small	Slight adverse

Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-90	56.8	46.3	47.3	1.0	Small	Slight adverse
3-91	58.3	47.5	48.6	1.1	Small	Slight adverse
3-92	56.1	45.7	46.6	1.0	Small	Slight adverse
3-93	60.9	49.7	50.9	1.2	Small	Slight adverse
3-94	67.8	56.4	58.2	1.8	Small	Slight adverse
3-95	57.4	47.3	48.5	1.2	Small	Slight adverse
3-96	68.2	56.6	58.4	1.8	Small	Slight adverse
3-97	72.1	60.1	62.2	2.1	Medium	Moderate adverse
3-98	49.2	40.2	41.1	0.9	Small	Slight adverse
3-99	52.0	42.6	43.7	1.1	Small	Slight adverse
3-100	51.6	42.2	43.3	1.1	Small	Slight adverse
3-101	48.3	39.5	40.3	0.8	Small	Slight adverse
3-102	54.6	44.4	45.2	0.8	Small	Slight adverse
3-103	48.7	39.6	40.1	0.5	Small	Slight adverse
3-104	54.7	44.5	45.2	0.8	Small	Slight adverse
3-105	55.3	46.1	47.9	1.8	Small	Slight adverse
3-106	54.6	45.6	46.8	1.3	Small	Slight adverse
3-107	54.9	45.9	48.0	2.1	Medium	Moderate adverse
3-108	61.9	52.1	55.1	3.0	Medium	Moderate adverse
3-109	52.4	43.7	45.5	1.8	Small	Slight adverse

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Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-110	58.8	49.1	52.4	3.3	Medium	Moderate adverse
3-111	64.5	54.4	57.7	3.3	Medium	Moderate adverse
3-112	58.1	48.2	52.1	3.9	Medium	Moderate adverse
3-113	53.5	44.4	47.3	2.9	Medium	Moderate adverse
3-114	52.3	43.3	46.3	3.1	Medium	Moderate adverse
3-115	53.9	44.6	48.1	3.5	Medium	Moderate adverse
3-116	50.2	41.5	44.2	2.6	Medium	Moderate adverse
3-117	51.8	42.8	45.8	3.0	Medium	Moderate adverse
3-118	47.5	39.3	41.2	2.0	Small	Slight adverse
3-119	50.1	41.4	44.0	2.6	Medium	Moderate adverse
3-120	46.5	38.4	40.1	1.7	Small	Slight adverse
3-121	45.6	37.7	39.1	1.4	Small	Slight adverse
3-122	48.7	40.6	42.7	2.1	Medium	Moderate adverse
3-123	47.6	39.3	41.3	2.0	Small	Slight adverse
3-124	46.4	38.6	39.7	1.1	Small	Slight adverse
3-125	47.2	39.2	40.3	1.1	Small	Slight adverse
3-126	46.1	38.3	39.2	0.9	Small	Slight adverse
3-127	45.8	38.0	38.8	0.8	Small	Slight adverse
3-128	48.9	40.2	41.2	1.0	Small	Slight adverse
3-129	49.0	40.8	45.4	4.6	Large	Substantial adverse

Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-130	49.2	41.0	46.0	5.1	Large	Substantial adverse
3-131	52.1	43.4	50.3	6.9	Large	Substantial adverse
3-132	54.4	45.4	54.0	8.6	Large	Substantial adverse
3-133	50.1	41.5	47.2	5.7	Large	Substantial adverse
3-134	53.4	44.1	52.0	7.9	Large	Substantial adverse
3-135	54.5	44.6	48.4	3.8	Medium	Moderate adverse
3-136	53.3	43.6	50.3	6.8	Large	Substantial adverse
3-137	66.3	55.9	56.9	1.0	Small	Slight adverse
3-138	34.8	28.6	28.6	0.1	Imperceptible	Negligible
3-139	41.0	34.5	34.6	0.2	Imperceptible	Negligible
3-140	36.7	30.1	30.1	0.0	Imperceptible	Negligible
3-141	43.5	35.4	35.4	0.0	Imperceptible	Negligible
3-142	58.8	48.0	48.9	0.9	Small	Slight adverse
3-143	41.2	34.2	34.4	0.2	Imperceptible	Negligible
3-144	74.7	63.3	64.6	1.3	Small	Slight adverse
3-145	69.4	58.7	59.7	1.0	Small	Slight adverse
3-146	41.7	35.0	35.3	0.3	Imperceptible	Negligible
3-147	43.9	36.6	36.6	0.0	Imperceptible	Negligible
3-148	38.6	31.6	31.6	0.0	Imperceptible	Negligible
3-149	61.0	51.5	52.5	1.0	Small	Slight adverse

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Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-150	43.5	35.4	35.4	0.0	Imperceptible	Negligible
3-151	46.1	39.0	39.2	0.2	Imperceptible	Negligible
3-152	51.6	42.6	43.0	0.4	Imperceptible	Negligible
3-153	40.5	34.0	34.1	0.1	Imperceptible	Negligible
3-154	34.6	28.4	28.4	0.0	Imperceptible	Negligible
3-155	45.6	38.0	39.0	1.0	Small	Slight adverse
3-156	44.0	36.7	36.7	0.1	Imperceptible	Negligible
3-157	46.6	38.9	39.1	0.2	Imperceptible	Negligible
3-158	58.3	48.6	51.8	3.1	Medium	Moderate adverse
3-159	40.5	34.1	34.2	0.1	Imperceptible	Negligible
3-160	43.8	36.5	36.6	0.0	Imperceptible	Negligible
3-161	43.5	35.2	35.2	0.0	Imperceptible	Negligible
3-162	66.6	55.9	57.6	1.7	Small	Slight adverse
3-163	64.1	53.0	55.2	2.1	Medium	Moderate adverse
3-164	57.2	46.7	48.0	1.4	Small	Slight adverse
3-165	64.9	54.8	58.1	3.3	Medium	Moderate adverse
3-166	33.7	27.6	27.7	0.0	Imperceptible	Negligible
3-167	49.5	41.1	43.0	1.8	Small	Slight adverse
3-168	61.7	50.7	52.1	1.4	Small	Slight adverse
3-169	42.5	35.6	35.9	0.3	Imperceptible	Negligible

Receptor	NO ₂ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-170	47.7	40.4	40.5	0.1	Imperceptible	Negligible
3-171	42.4	35.5	35.8	0.2	Imperceptible	Negligible
3-172	43.5	35.2	35.2	0.0	Imperceptible	Negligible
3-173	81.8	70.1	71.6	1.5	Small	Slight adverse
3-174	42.7	35.7	36.0	0.3	Imperceptible	Negligible
3-175	53.7	45.4	45.6	0.3	Imperceptible	Negligible
3-176	44.1	37.0	37.0	0.0	Imperceptible	Negligible
3-177	52.8	43.7	48.5	4.8	Large	Substantial adverse
3-178	34.8	28.5	28.6	0.0	Imperceptible	Negligible
3-179	55.3	45.8	47.1	1.3	Small	Slight adverse
3-180	66.9	55.5	58.1	2.6	Medium	Moderate adverse
3-181	52.6	43.1	44.3	1.1	Small	Slight adverse
3-182	52.6	43.5	44.4	0.9	Small	Slight adverse
3-183	43.5	35.4	35.4	0.0	Imperceptible	Negligible
3-184	43.5	35.2	35.2	0.0	Imperceptible	Negligible

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Table 18: Summary of ADMS-Roads annual mean PM₁₀ results (construction phase)

Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-2	18.2	17.2	17.2	0.0	Imperceptible	Negligible
3-3	19.6	18.5	18.5	0.0	Imperceptible	Negligible
3-5	22.0	20.5	20.5	0.0	Imperceptible	Negligible
3-6	24.3	22.8	22.9	0.1	Imperceptible	Negligible
3-7	19.9	18.7	18.7	0.0	Imperceptible	Negligible
3-8	26.1	24.3	24.4	0.1	Imperceptible	Negligible
3-9	25.5	23.8	23.9	0.1	Imperceptible	Negligible
3-13	24.0	22.5	22.6	0.1	Imperceptible	Negligible
3-16	22.0	20.6	20.7	0.1	Imperceptible	Negligible
3-21	21.1	19.8	19.8	0.0	Imperceptible	Negligible
3-26	24.5	22.9	23.0	0.1	Imperceptible	Negligible
3-28	22.9	21.4	21.5	0.1	Imperceptible	Negligible
3-30	17.9	16.8	16.9	0.0	Imperceptible	Negligible
3-32	24.6	23.1	23.2	0.1	Imperceptible	Negligible
3-37	27.8	25.7	25.8	0.1	Imperceptible	Negligible
3-40	20.9	19.8	19.8	0.0	Imperceptible	Negligible
3-41	21.8	20.3	20.8	0.5	Small	Negligible
3-42	18.2	17.2	17.2	0.0	Imperceptible	Negligible
3-43	22.2	20.8	21.0	0.1	Imperceptible	Negligible

Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-50	23.0	21.6	21.8	0.2	Imperceptible	Negligible
3-51	23.0	21.5	21.8	0.2	Imperceptible	Negligible
3-52	23.0	21.5	21.7	0.2	Imperceptible	Negligible
3-53	22.5	21.1	21.2	0.2	Imperceptible	Negligible
3-54	23.7	22.0	22.2	0.2	Imperceptible	Negligible
3-55	21.7	20.4	20.5	0.1	Imperceptible	Negligible
3-56	23.2	21.7	21.9	0.2	Imperceptible	Negligible
3-57	23.4	21.9	22.1	0.2	Imperceptible	Negligible
3-58	23.3	21.8	22.0	0.2	Imperceptible	Negligible
3-59	23.2	21.7	22.0	0.2	Imperceptible	Negligible
3-60	24.7	23.0	23.1	0.1	Imperceptible	Negligible
3-61	28.9	26.5	26.7	0.2	Imperceptible	Negligible
3-62	25.4	23.7	23.8	0.1	Imperceptible	Negligible
3-63	24.3	22.7	22.8	0.1	Imperceptible	Negligible
3-64	26.5	24.7	24.8	0.1	Imperceptible	Negligible
3-65	25.3	23.6	23.7	0.1	Imperceptible	Negligible
3-66	26.5	24.8	24.9	0.1	Imperceptible	Negligible
3-67	25.1	23.5	23.6	0.1	Imperceptible	Negligible
3-68	24.0	22.5	22.6	0.1	Imperceptible	Negligible
3-69	25.0	23.4	23.5	0.1	Imperceptible	Negligible

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Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-70	26.3	24.6	24.8	0.1	Imperceptible	Negligible
3-71	26.7	25.0	25.1	0.1	Imperceptible	Negligible
3-72	26.4	24.7	24.9	0.1	Imperceptible	Negligible
3-73	26.1	24.4	24.5	0.1	Imperceptible	Negligible
3-74	24.7	23.1	23.2	0.1	Imperceptible	Negligible
3-75	26.1	24.4	24.5	0.1	Imperceptible	Negligible
3-76	24.0	22.5	22.6	0.1	Imperceptible	Negligible
3-77	23.6	22.0	22.1	0.1	Imperceptible	Negligible
3-78	24.2	22.7	22.8	0.1	Imperceptible	Negligible
3-79	24.3	22.7	22.8	0.1	Imperceptible	Negligible
3-80	23.7	22.2	22.3	0.1	Imperceptible	Negligible
3-81	22.8	21.4	21.5	0.1	Imperceptible	Negligible
3-82	23.9	22.3	22.4	0.1	Imperceptible	Negligible
3-83	23.8	22.1	22.2	0.1	Imperceptible	Negligible
3-84	25.1	23.1	23.2	0.1	Imperceptible	Negligible
3-85	24.3	22.6	22.7	0.2	Imperceptible	Negligible
3-86	22.3	21.0	21.0	0.1	Imperceptible	Negligible
3-87	23.3	21.9	22.0	0.1	Imperceptible	Negligible
3-88	22.8	21.4	21.5	0.1	Imperceptible	Negligible
3-89	22.3	20.9	21.0	0.1	Imperceptible	Negligible

Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-90	23.2	21.7	21.8	0.1	Imperceptible	Negligible
3-91	23.5	22.0	22.1	0.1	Imperceptible	Negligible
3-92	23.0	21.6	21.7	0.1	Imperceptible	Negligible
3-93	24.0	22.5	22.6	0.1	Imperceptible	Negligible
3-94	25.8	23.7	23.8	0.1	Imperceptible	Negligible
3-95	23.4	21.7	21.8	0.1	Imperceptible	Negligible
3-96	25.5	23.5	23.6	0.1	Imperceptible	Negligible
3-97	26.5	24.2	24.4	0.1	Imperceptible	Negligible
3-98	21.9	20.6	20.6	0.1	Imperceptible	Negligible
3-99	22.4	21.0	21.1	0.1	Imperceptible	Negligible
3-100	22.3	21.0	21.1	0.1	Imperceptible	Negligible
3-101	21.7	20.4	20.5	0.1	Imperceptible	Negligible
3-102	23.5	22.1	22.2	0.1	Imperceptible	Negligible
3-103	22.1	20.8	20.9	0.0	Imperceptible	Negligible
3-104	23.5	22.1	22.2	0.1	Imperceptible	Negligible
3-105	22.0	20.5	20.8	0.3	Imperceptible	Negligible
3-106	22.0	20.5	20.7	0.2	Imperceptible	Negligible
3-107	21.9	20.3	20.7	0.4	Imperceptible	Negligible
3-108	23.1	21.4	22.0	0.6	Small	Negligible
3-109	21.5	20.1	20.4	0.3	Imperceptible	Negligible

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Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-110	22.7	21.1	21.6	0.5	Small	Negligible
3-111	23.4	21.7	22.3	0.6	Small	Negligible
3-112	22.7	21.1	21.7	0.6	Small	Negligible
3-113	21.8	20.4	20.8	0.4	Imperceptible	Negligible
3-114	21.7	20.3	20.7	0.4	Imperceptible	Negligible
3-115	22.0	20.6	21.0	0.5	Small	Negligible
3-116	21.3	20.0	20.3	0.3	Imperceptible	Negligible
3-117	21.6	20.2	20.6	0.4	Imperceptible	Negligible
3-118	20.9	19.6	19.8	0.2	Imperceptible	Negligible
3-119	21.3	20.0	20.3	0.3	Imperceptible	Negligible
3-120	20.7	19.4	19.6	0.2	Imperceptible	Negligible
3-121	20.5	19.3	19.5	0.2	Imperceptible	Negligible
3-122	20.8	19.5	19.8	0.3	Imperceptible	Negligible
3-123	20.9	19.6	19.8	0.2	Imperceptible	Negligible
3-124	20.2	19.0	19.2	0.2	Imperceptible	Negligible
3-125	20.2	19.0	19.2	0.2	Imperceptible	Negligible
3-126	20.3	19.1	19.2	0.1	Imperceptible	Negligible
3-127	20.3	19.1	19.2	0.1	Imperceptible	Negligible
3-128	20.7	19.5	19.6	0.2	Imperceptible	Negligible
3-129	21.2	19.8	20.2	0.4	Small	Negligible

Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-130	21.2	19.8	20.3	0.4	Small	Negligible
3-131	21.7	20.2	20.9	0.6	Small	Negligible
3-132	21.7	20.4	21.5	1.1	Small	Negligible
3-133	21.2	19.8	20.5	0.7	Small	Negligible
3-134	21.6	20.2	21.2	1.0	Small	Negligible
3-135	22.4	20.9	21.3	0.4	Small	Negligible
3-136	22.2	20.7	21.5	0.9	Small	Negligible
3-137	24.5	22.8	22.9	0.1	Imperceptible	Negligible
3-138	18.2	17.2	17.2	0.0	Imperceptible	Negligible
3-139	19.6	18.5	18.5	0.0	Imperceptible	Negligible
3-140	19.3	18.2	18.2	0.0	Imperceptible	Negligible
3-141	22.0	20.5	20.5	0.0	Imperceptible	Negligible
3-142	24.3	22.8	22.9	0.1	Imperceptible	Negligible
3-143	19.9	18.7	18.7	0.0	Imperceptible	Negligible
3-144	26.1	24.3	24.4	0.1	Imperceptible	Negligible
3-145	25.5	23.8	23.9	0.1	Imperceptible	Negligible
3-146	19.7	18.5	18.6	0.0	Imperceptible	Negligible
3-147	21.0	19.8	19.8	0.0	Imperceptible	Negligible
3-148	20.0	18.8	18.8	0.0	Imperceptible	Negligible
3-149	24.0	22.5	22.6	0.1	Imperceptible	Negligible

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Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-150	22.0	20.5	20.5	0.0	Imperceptible	Negligible
3-151	21.3	20.1	20.1	0.0	Imperceptible	Negligible
3-152	22.0	20.6	20.7	0.1	Imperceptible	Negligible
3-153	19.5	18.4	18.4	0.0	Imperceptible	Negligible
3-154	18.2	17.2	17.2	0.0	Imperceptible	Negligible
3-155	20.2	19.0	19.2	0.1	Imperceptible	Negligible
3-156	21.1	19.8	19.8	0.0	Imperceptible	Negligible
3-157	21.1	19.8	19.8	0.0	Imperceptible	Negligible
3-158	22.5	21.0	21.5	0.5	Small	Negligible
3-159	19.5	18.4	18.4	0.0	Imperceptible	Negligible
3-160	21.0	19.8	19.8	0.0	Imperceptible	Negligible
3-161	22.0	20.5	20.5	0.0	Imperceptible	Negligible
3-162	24.5	22.9	23.0	0.1	Imperceptible	Negligible
3-163	23.8	22.2	22.5	0.3	Imperceptible	Negligible
3-164	22.9	21.4	21.5	0.1	Imperceptible	Negligible
3-165	23.5	21.7	22.4	0.6	Small	Negligible
3-166	17.9	16.8	16.9	0.0	Imperceptible	Negligible
3-167	20.8	19.5	19.8	0.3	Imperceptible	Negligible
3-168	24.6	23.1	23.2	0.1	Imperceptible	Negligible
3-169	20.1	19.0	19.0	0.0	Imperceptible	Negligible

Receptor	PM ₁₀ concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-170	21.5	20.3	20.3	0.0	Imperceptible	Negligible
3-171	20.1	19.0	19.0	0.0	Imperceptible	Negligible
3-172	22.0	20.5	20.5	0.0	Imperceptible	Negligible
3-173	27.8	25.7	25.8	0.1	Imperceptible	Negligible
3-174	20.2	19.0	19.0	0.0	Imperceptible	Negligible
3-175	22.4	21.1	21.1	0.0	Imperceptible	Negligible
3-176	20.9	19.8	19.8	0.0	Imperceptible	Negligible
3-177	21.8	20.3	20.8	0.5	Small	Negligible
3-178	18.2	17.2	17.2	0.0	Imperceptible	Negligible
3-179	22.2	20.8	21.0	0.1	Imperceptible	Negligible
3-180	24.1	22.5	22.8	0.3	Imperceptible	Negligible
3-181	21.9	20.5	20.6	0.1	Imperceptible	Negligible
3-182	22.0	20.6	20.7	0.1	Imperceptible	Negligible
3-183	22.0	20.5	20.5	0.0	Imperceptible	Negligible
3-184	22.0	20.5	20.5	0.0	Imperceptible	Negligible

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Table 19: Summary of ADMS-Roads 24-hour PM₁₀ exceedance results (construction phase)

Receptor	Number days exceeding PM ₁₀ 24-hour standard			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-2	1.6	0.8	0.8	0.0	Imperceptible	Negligible
3-3	2.9	1.8	1.8	0.0	Imperceptible	Negligible
3-5	6.2	4.1	4.1	0.0	Imperceptible	Negligible
3-6	10.8	7.8	7.9	0.2	Imperceptible	Negligible
3-7	3.2	2.0	5.0	3.0	Medium	Negligible
3-8	15.1	10.7	11.0	0.2	Imperceptible	Negligible
3-9	13.6	9.8	10.0	0.2	Imperceptible	Negligible
3-13	10.1	7.2	7.3	0.1	Imperceptible	Negligible
3-16	6.3	4.2	4.3	0.1	Imperceptible	Negligible
3-21	4.8	3.2	3.2	0.0	Imperceptible	Negligible
3-26	11.2	7.9	8.1	0.2	Imperceptible	Negligible
3-28	7.8	5.3	5.4	0.2	Imperceptible	Negligible
3-30	1.3	0.7	0.7	0.0	Imperceptible	Negligible
3-32	11.4	8.2	8.5	0.3	Imperceptible	Negligible
3-37	20.0	14.1	14.5	0.3	Imperceptible	Negligible
3-40	4.7	3.1	3.1	0.0	Imperceptible	Negligible
3-41	6.0	3.8	4.5	0.7	Imperceptible	Negligible
3-42	1.6	0.8	0.9	0.0	Imperceptible	Negligible
3-43	6.6	4.5	4.7	0.2	Imperceptible	Negligible

Receptor	Number days exceeding PM ₁₀ 24-hour standard			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-50	8.2	5.6	6.0	0.4	Imperceptible	Negligible
3-51	8.1	5.6	5.9	0.4	Imperceptible	Negligible
3-52	8.0	5.5	5.8	0.3	Imperceptible	Negligible
3-53	7.1	4.8	5.1	0.2	Imperceptible	Negligible
3-54	9.5	6.3	6.7	0.4	Imperceptible	Negligible
3-55	5.9	3.9	4.0	0.1	Imperceptible	Negligible
3-56	8.4	5.7	6.1	0.4	Imperceptible	Negligible
3-57	9.0	6.1	6.6	0.4	Imperceptible	Negligible
3-58	8.8	6.0	6.4	0.4	Imperceptible	Negligible
3-59	8.6	5.9	6.3	0.4	Imperceptible	Negligible
3-60	11.7	8.2	8.4	0.2	Imperceptible	Negligible
3-61	23.7	16.4	16.9	0.5	Imperceptible	Negligible
3-62	13.3	9.4	9.6	0.2	Imperceptible	Negligible
3-63	10.8	7.6	7.7	0.1	Imperceptible	Negligible
3-64	16.1	11.6	12.0	0.3	Imperceptible	Negligible
3-65	13.1	9.4	9.6	0.2	Imperceptible	Negligible
3-66	16.3	11.9	12.2	0.3	Imperceptible	Negligible
3-67	12.6	9.1	9.2	0.2	Imperceptible	Negligible
3-68	10.1	7.2	7.3	0.1	Imperceptible	Negligible
3-69	12.4	8.9	9.1	0.2	Imperceptible	Negligible

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Receptor	Number days exceeding PM ₁₀ 24-hour standard			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-70	15.8	11.5	11.8	0.3	Imperceptible	Negligible
3-71	16.9	12.3	12.7	0.3	Imperceptible	Negligible
3-72	16.1	11.7	12.1	0.3	Imperceptible	Negligible
3-73	15.2	11.0	11.3	0.3	Imperceptible	Negligible
3-74	11.6	8.3	8.5	0.2	Imperceptible	Negligible
3-75	15.1	11.0	11.3	0.3	Imperceptible	Negligible
3-76	10.2	7.1	7.3	0.2	Imperceptible	Negligible
3-77	9.2	6.4	6.6	0.2	Imperceptible	Negligible
3-78	10.7	7.4	7.7	0.2	Imperceptible	Negligible
3-79	10.8	7.5	7.8	0.2	Imperceptible	Negligible
3-80	9.5	6.6	6.8	0.2	Imperceptible	Negligible
3-81	7.8	5.3	5.5	0.1	Imperceptible	Negligible
3-82	9.8	6.7	6.9	0.2	Imperceptible	Negligible
3-83	9.7	6.4	6.6	0.2	Imperceptible	Negligible
3-84	12.7	8.3	8.6	0.3	Imperceptible	Negligible
3-85	10.7	7.3	7.6	0.3	Imperceptible	Negligible
3-86	6.8	4.7	4.8	0.1	Imperceptible	Negligible
3-87	8.7	6.1	6.3	0.1	Imperceptible	Negligible
3-88	7.7	5.3	5.5	0.1	Imperceptible	Negligible
3-89	6.7	4.6	4.7	0.1	Imperceptible	Negligible

Receptor	Number days exceeding PM ₁₀ 24-hour standard			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-90	8.4	5.9	6.0	0.1	Imperceptible	Negligible
3-91	9.0	6.3	6.5	0.1	Imperceptible	Negligible
3-92	8.2	5.7	5.8	0.1	Imperceptible	Negligible
3-93	10.2	7.2	7.4	0.2	Imperceptible	Negligible
3-94	14.5	9.6	9.8	0.2	Imperceptible	Negligible
3-95	8.9	5.9	6.0	0.1	Imperceptible	Negligible
3-96	13.7	9.1	9.3	0.2	Imperceptible	Negligible
3-97	16.3	10.7	11.0	0.3	Imperceptible	Negligible
3-98	6.1	4.1	4.2	0.1	Imperceptible	Negligible
3-99	7.0	4.8	4.9	0.1	Imperceptible	Negligible
3-100	6.9	4.7	4.8	0.1	Imperceptible	Negligible
3-101	5.9	4.0	4.1	0.1	Imperceptible	Negligible
3-102	9.0	6.4	6.6	0.1	Imperceptible	Negligible
3-103	6.5	4.5	4.6	0.1	Imperceptible	Negligible
3-104	9.1	6.5	6.7	0.1	Imperceptible	Negligible
3-105	6.3	4.0	4.4	0.4	Imperceptible	Negligible
3-106	6.2	4.0	4.3	0.3	Imperceptible	Negligible
3-107	6.1	3.8	4.3	0.5	Imperceptible	Negligible
3-108	8.3	5.3	6.3	0.9	Imperceptible	Negligible
3-109	5.5	3.5	3.9	0.4	Imperceptible	Negligible

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Receptor	Number days exceeding PM ₁₀ 24-hour standard			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-110	7.5	4.8	5.7	0.8	Imperceptible	Negligible
3-111	8.9	5.8	6.8	1.1	Small	Negligible
3-112	7.5	5.0	5.8	0.9	Imperceptible	Negligible
3-113	6.0	3.9	4.5	0.5	Imperceptible	Negligible
3-114	5.8	3.8	4.3	0.5	Imperceptible	Negligible
3-115	6.3	4.1	4.8	0.7	Imperceptible	Negligible
3-116	5.3	3.4	3.8	0.4	Imperceptible	Negligible
3-117	5.7	3.7	4.2	0.5	Imperceptible	Negligible
3-118	4.6	2.9	3.2	0.3	Imperceptible	Negligible
3-119	5.2	3.4	3.8	0.4	Imperceptible	Negligible
3-120	4.3	2.7	3.0	0.2	Imperceptible	Negligible
3-121	4.1	2.6	2.8	0.2	Imperceptible	Negligible
3-122	4.4	2.8	3.1	0.3	Imperceptible	Negligible
3-123	4.6	2.9	3.2	0.3	Imperceptible	Negligible
3-124	3.7	2.3	2.5	0.2	Imperceptible	Negligible
3-125	3.7	2.3	2.5	0.2	Imperceptible	Negligible
3-126	3.8	2.4	2.5	0.1	Imperceptible	Negligible
3-127	3.7	2.3	2.5	0.1	Imperceptible	Negligible
3-128	4.4	2.8	3.0	0.2	Imperceptible	Negligible
3-129	5.0	3.2	3.7	0.5	Imperceptible	Negligible

Receptor	Number days exceeding PM ₁₀ 24-hour standard			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-130	5.0	3.2	3.8	0.5	Imperceptible	Negligible
3-131	5.8	3.7	4.5	0.8	Imperceptible	Negligible
3-132	5.8	3.9	5.5	1.6	Small	Negligible
3-133	5.0	3.2	4.1	0.9	Imperceptible	Negligible
3-134	5.7	3.7	5.1	1.4	Small	Negligible
3-135	7.0	4.5	5.1	0.6	Imperceptible	Negligible
3-136	6.6	4.3	5.5	1.3	Small	Negligible
3-137	11.3	7.8	7.9	0.2	Imperceptible	Negligible
3-138	1.6	0.8	0.8	0.0	Imperceptible	Negligible
3-139	2.9	1.8	1.8	0.0	Imperceptible	Negligible
3-140	2.6	1.5	1.5	0.0	Imperceptible	Negligible
3-141	6.2	4.1	4.1	0.0	Imperceptible	Negligible
3-142	10.8	7.8	7.9	0.2	Imperceptible	Negligible
3-143	3.2	2.0	2.0	0.0	Imperceptible	Negligible
3-144	15.1	10.7	11.0	0.2	Imperceptible	Negligible
3-145	13.6	9.8	10.0	0.2	Imperceptible	Negligible
3-146	3.0	1.8	1.9	0.0	Imperceptible	Negligible
3-147	4.8	3.2	3.2	0.0	Imperceptible	Negligible
3-148	3.4	2.1	2.1	0.0	Imperceptible	Negligible
3-149	10.1	7.2	7.3	0.1	Imperceptible	Negligible

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Receptor	Number days exceeding PM ₁₀ 24-hour standard			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-150	6.2	4.1	4.1	0.0	Imperceptible	Negligible
3-151	5.1	3.5	3.5	0.0	Imperceptible	Negligible
3-152	6.3	4.2	4.3	0.1	Imperceptible	Negligible
3-153	2.8	1.7	1.7	0.0	Imperceptible	Negligible
3-154	1.5	0.8	0.8	0.0	Imperceptible	Negligible
3-155	3.7	2.3	2.5	0.1	Imperceptible	Negligible
3-156	4.8	3.2	3.2	0.0	Imperceptible	Negligible
3-157	4.8	3.2	3.2	0.0	Imperceptible	Negligible
3-158	7.3	4.7	5.5	0.8	Imperceptible	Negligible
3-159	2.8	1.7	1.7	0.0	Imperceptible	Negligible
3-160	4.8	3.2	3.2	0.0	Imperceptible	Negligible
3-161	6.3	4.1	4.1	0.0	Imperceptible	Negligible
3-162	11.2	7.9	8.1	0.2	Imperceptible	Negligible
3-163	9.7	6.6	7.1	0.5	Imperceptible	Negligible
3-164	7.8	5.3	5.4	0.2	Imperceptible	Negligible
3-165	9.0	5.9	6.9	1.1	Small	Negligible
3-166	1.3	0.7	0.7	0.0	Imperceptible	Negligible
3-167	4.4	2.8	3.1	0.3	Imperceptible	Negligible
3-168	11.4	8.2	8.5	0.3	Imperceptible	Negligible
3-169	3.6	2.3	2.3	0.0	Imperceptible	Negligible

Receptor	Number days exceeding PM ₁₀ 24-hour standard			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2017 without Proposed Scheme	2017 with Proposed Scheme			
3-170	5.5	3.7	3.7	0.0	Imperceptible	Negligible
3-171	3.6	2.3	2.3	0.0	Imperceptible	Negligible
3-172	6.2	4.1	4.1	0.0	Imperceptible	Negligible
3-173	20.0	14.1	14.5	0.3	Imperceptible	Negligible
3-174	3.6	2.3	2.3	0.0	Imperceptible	Negligible
3-175	7.0	4.8	4.9	0.0	Imperceptible	Negligible
3-176	4.7	3.1	3.1	0.0	Imperceptible	Negligible
3-177	6.0	3.8	4.5	0.7	Imperceptible	Negligible
3-178	1.6	0.8	0.9	0.0	Imperceptible	Negligible
3-179	6.6	4.5	4.7	0.2	Imperceptible	Negligible
3-180	10.3	7.1	7.7	0.6	Imperceptible	Negligible
3-181	6.1	4.0	4.1	0.1	Imperceptible	Negligible
3-182	6.3	4.2	4.3	0.2	Imperceptible	Negligible
3-183	6.2	4.1	4.1	0.0	Imperceptible	Negligible
3-184	6.2	4.1	4.1	0.0	Imperceptible	Negligible

Assessment of significance

- 5.3.10 The significance of the impacts on air quality from construction traffic associated with the Proposed Scheme has been assessed in accordance with the EPUK methodology³². AQMAs cover the entire study area, and baseline pollution levels exceed air quality standards in many locations, particularly along major roads.
- 5.3.11 The DMRB assessment identified a number of receptors where there may be moderate or substantial adverse air quality impacts from traffic during the construction phase. The detailed ADMS-Roads assessment predicted that there will be numerous locations where air quality standards are exceeded, with and without the Proposed Scheme, where concentrations of NO₂ and PM₁₀ increase with the proposed scheme.
- 5.3.12 NO₂ impacts are predicted to be substantial adverse at numerous receptors on Haverstock Hill and also on England's Lane. NO₂ impacts are predicted to be moderate adverse at several receptors on the Finchley Road, from the south of the study area as far as the junction with Boundary Road and at the junction of Finchley Road and Hendon Way, at the junction between Adelaide Road and Haverstock Hill, and at several receptors along Rosslyn Hill and at Heath Street, close to the junction with Rosslyn Hill.
- 5.3.13 PM₁₀ impacts are predicted to be negligible at receptors in the study area during the construction phase.
- 5.3.14 The NO₂ impacts will give rise to significant effects. However, these are limited in spatial extent, to locations bordering identified road links, and duration.
- 5.3.15 Nitrogen deposition rates at the Hampstead Woods SSSI will be exceeded with or without the Proposed Scheme in place. Changes in deposition rates arising from traffic during construction will not be significant in respect of this site.

5.4 Operational traffic model

- 5.4.1 Operational traffic data used in this assessment are detailed in Volume 5, Appendix TR-001-000. The scenario assessed is based on maximum traffic on affected roads during the opening year of the Proposed Scheme.

Receptors assessed

- 5.4.2 Two conjoining road links met the DMRB criteria for local air quality assessment. A receptor representative of worst-case exposure locations was selected for assessment. Receptors assessed are presented in Map AQ-01-003 (Volume 5, Air Quality Map Book).

Table 20: Modelled receptors (operational phase)

Receptor	Description/Location	Ordnance Survey coordinates
3-49	Property at the junction of Prince Albert Road and Parkway	528608, 183579

Background concentrations

5.4.3 The background concentrations used in the assessment are shown in Table 21 taken from the Defra maps²⁴.

Table 21: Background 2012 concentrations at assessed receptors

Receptor (or zone of receptors)	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NO _x	NO ₂	PM ₁₀
(3-49) Property at the junction of Prince Albert Road and Parkway	67.5	37.1	21.0

Table 22: Background 2026 concentrations at assessed receptors

Receptor (or zone of receptors)	Concentrations ($\mu\text{g}/\text{m}^3$)		
	NO _x	NO ₂	PM ₁₀
(3-49) Property at the junction of Prince Albert Road and Parkway	39.4	24.2	18.8

Design Manual for Roads and Bridges model results

5.4.4 This section provides the summary of the modelled pollutant concentrations for the assessed receptors. The magnitude of change and impact descriptor are also derived following the EPUK methodology³².

Table 23: Summary of DMRB annual mean NO₂ results (operational phase)

Receptor	Concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2026 without Proposed Scheme	2026 with Proposed Scheme			
3-49	50.2	30.1	29.9	-0.1	Imperceptible	Negligible

Table 24: Summary of DMRB annual mean PM₁₀ results (operational phase)

Receptor	Concentrations (µg/m ³)			Change in concentrations (µg/m ³)	Magnitude of change	Impact descriptor
	2012 baseline	2026 without Proposed Scheme	2026 with Proposed Scheme			
3-49	21.4	20.7	20.7	0.0	Imperceptible	Negligible

Assessment of significance

- 5.4.5 The significance of the impacts on air quality from operational traffic associated with the Proposed Scheme has been assessed in line with the EPUK methodology³². There will be no changes to air quality during the operational phase that are more than negligible and therefore there will be no significant effect on receptors.

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